A Lecture
ON
THE TREATMENT OF ANIMALS POISONED WITH SNAKE VENOM BY THE INJECTION OF ANTI-VENOMOUS SERUM.

Delivered in the Laboratories of the Conjoint Board of the Royal Colleges of Physicians (London) and Surgeons (England) on July 27th, 1896,

BY A. CALMETTE, M.D.,
OF THE INSTITUT PASTEUR, LILLE.

GENTLEMEN,—The importance of the treatment of snake-bite, though comparatively slight in this country, assumes much greater proportions in connexion with the Indian, Burman, Australian, and African colonies, as in India alone there is an annual death-rate from snake-bite of between twenty and thirty thousand people, whilst the financial loss through the death of cattle due to the same cause is very considerable. For this reason it is obvious that any treatment of snake-bite which offers reasonable promise of diminishing this mortality should be seriously considered by those who are responsible for the health administration of districts in which snakes are found. For some time past I have devoted considerable attention to the production of an anti-venomous serum, and after many experiments I succeeded some time ago in placing in the hands of medical men in India and Australia a serum the value of which has now been proved in a small number of cases in which the snake which has bitten the patient has been identified and captured. Many of my observations have been confirmed, some in this country by Professor Fraser and others by observers in British colonies, but the importance of the serum method of treatment has even now not been fully realised. I have to-day, however, the opportunity of giving you the results of experiments that have been performed under Dr. Woodhead's licence, but under my direct personal supervision, so that they may be relied upon as affording direct proof of the value of my method. Those animals that have been successfully treated you may examine for yourselves; others that have been poisoned with the snake venom, but have not received the serum, have succumbed; these latter serve as control experiments with which to compare the results obtained when the serum has been given.

These experiments are easily carried out and are absolutely painless; in rabbits, as in the human subject, the first symptom indicating the action of snake poison is slight somnolence, which, becoming more and more marked, is gradually succeeded by a condition of unconsciousness associated with, first, muscular contraction and then with loss of motor power, which commencing in the hind limbs passes forwards until the respiratory centres are affected, the cardiac centre being the last attacked; when the animal dies the heart is found in a condition of diastole. The venom may be injected in two ways—intravenously, when a comparatively small dose acts with great rapidity; and subcutaneously, when the dose also acts powerfully but more slowly. A lethal dose of cobra poison injected subcutaneously is about 1 milligramme of dried substance, which proves lethal in about twelve hours. Twice this quantity injected into the veins kills a rabbit of about 1500 grammes in sixteen minutes. Five times as much introduced subcutaneously proves fatal in about three and a half hours. I may, however, give you the results of experiments devised to bring out the exact action of the anti-venomous serum, which experiments have been followed by those who are working in these laboratories.

Protective injections.—At nine o'clock this morning four rabbits weighing between 1450 and 1770 grammes were injected intravenously in the lateral aural vein, each with 3 c.c. of the anti-venomous serum. This afternoon these rabbits have been injected intravenously with 2 milligrammes of dissolved dried venom sufficient to kill the animal in sixteen or seventeen minutes. None of these animals show any symptom of sleepiness, and it is evident that the venom will have little if any effect upon them. At the time that these animals were injected with the two lethal doses two control rabbits weighing 1340 and 1275 grammes respectively were similarly injected intravenously with 2 milligrammes of the venom; these both succumbed with the symptoms above-mentioned, one in about sixteen minutes and the other in seventeen minutes. We have here then ample evidence of the great protective power that the serum exerts when injected into the body before the venom is introduced. In a second series of experiments carried out to demonstrate the curative properties of this serum six rabbits were similarly treated with 5 milligrammes of venom injected under the skin. Half an hour afterwards two of these animals received 3 c.c. of the serum intravenously; neither of them showed any symptoms of poisoning and remained perfectly well. Two others of these poisoned animals one hour after the venom had been introduced were similarly injected intravenously with 3 c.c. of the serum; they also remained well. Two of the other rabbits should have been left for one and a half hours, but the dose of poison was so large that one of the animals succumbed at the end of an hour and twenty minutes; the other animal was immediately injected with the same dose of serum as above, with the result that it is now well although the dose of venom was so large and had been allowed to act for so long a time, long enough, indeed, to kill the other animal injected at the same time. This is a very striking proof of the efficacy of the serum.

Although the anti-venomous serum does not act directly upon the toxin, but only through the cells, it begins to exert its influence immediately it is introduced into the body. This fact is well brought out by the following experiments. Three c.c. of the serum were injected into the lateral vein of the left ear of a rabbit weighing 1280 grammes; fifteen minutes later this animal received into the lateral vein of the right ear 2 milligrammes of the venom, sufficient to kill it in less than twenty minutes had it not received the serum. The animal has remained perfectly well and still shows no evidence of poisoning by snake venom. A more striking experiment still is one of which I give a description. A rabbit having received intravenously 2 milligrammes of venom, two minutes later is injected with 5 c.c. of the anti-venomous serum in the vein of the opposite ear. The animal has remained perfectly well.[1] Such an experiment shows that the venom does not destroy the cellular elements at once, and that even when the poison has already found its way to the circulation these cells may be rendered insensible to the action of the poison by means of the action of the serum.

[Dr. Calmette then gave extracts from his paper which he brought forward at Carlisle, and concluded by asking Dr. Woodhead to read the following:]

Gentlemen, the experiments that have been described to you concerning the efficacy of the "anti-venomous serum," the results of which you have before you, prove that the said serum really constitutes a specific remedy against venomous snake bites. The use of this serum must necessarily become generalised at no distant date in all countries where venomous snakes are found, in order that both men and domestic animals may be protected. Is it not advisable, therefore, for the British or Colonial Governments which are deeply interested in this matter to take rigorous measures to prevent the sale in England and in its colonies of serums for which no absolute guarantee of efficacy and purity is given? I have the honour to propose that you will adopt the following propositions and bring them in some way before the Government at as early a date as possible:—

1. That there be instituted in London and in each British colony where there are found venomous snakes a sanitary committee to be entrusted with the duty of testing the efficacy of anti-venomous serums offered for sale or sent out to be delivered gratuitously by druggists and others.

2. That no bottle shall be sold or distributed unless bearing the mark of such control.

3. That this control be effected according to the sole, simple, and rapid method which alone presents every guarantee of accuracy.

4. The method proposed is the following: A standard solution of venom will be placed at the disposal of the appointed experts. The toxic unit of this solution will be based on the quantity of venom necessary to kill a rabbit of

[1] All these animals were still alive and in excellent health eight days later.

two kilogrammes in twenty minutes by intravenous inoculation in the marginal vein of the ear, the above quantity corresponding on an average to two milligrammes of cobra venom (weighed dry) and to four milligrammes of rattlesnake venom. An anti-venomous serum to be sufficiently active for therapeutic use must be a preservative in a minimum dose of two cubic centimetres on intravenous injection into a rabbit of two kilogrammes against an intravenous injection of the toxic unit of venom. The preventive inoculation must be made fifteen minutes only before the inoculation of the venom. The testing of the serum is thus effected in less than one half-hour.

5. That stations provided with serum and all the necessary apparatus for its application be established in the principal centres of agriculture and in the mining and forest districts of the colonies infested with venomous snakes, such as Australia, Burmah, and India, so that every person bitten may be able to come at once and receive treatment.

[Dr. Calmette spoke in French, and at the close of the lecture, which was listened to with great interest by a large number of experts, including Professor Michael Foster, Professor Ray Lankester, Dr. Lauder Brunton, Dr. P. Carmody (Trinidad), Dr. Liveing, Dr. Rose Bradford, Dr. Washbourn, Mr. Arthur Stradling, Dr. F. W. Mott, Dr. Buckmaster, Dr. Slater, Dr. Starling, Mr. H. E. Durham, and Dr. Macfadyen, the members of the Laboratories Committee and many of those carrying on investigation in the laboratories, Dr. Pye-Smith proposed a vote of thanks to Dr. Calmette for the very lucid and convincing manner in which he had handled the subject. He was sure all those present wished Dr. Calmette success in his efforts to treat a condition so important to us, especially as it affects our colonial brethren. This vote was adopted most cordially.]

A CASE OF ANEURYSM BY ANASTOMOSIS INVOLVING THE VESSELS OF THE HARD PALATE.[1]

BY A. MARMADUKE SHEILD, M.B. CAMB., F.R.C.S. ENG.,

ASSISTANT SURGEON TO, AND LECTURER ON PRACTICAL SURGERY AT, ST. GEORGE'S HOSPITAL.

ON the afternoon of Jan. 18th I was requested by Dr. Norton of Queen Anne's-mansions to see immediately a patient whose condition was stated to be serious on account of persistent bleeding of an arterial character into the mouth. He was a retired officer aged fifty-seven years, and had suffered from "liver affections," but never from malaria. In 1893 he had an accidental fall "and broke his nose," and repeatedly had suffered from severe epistaxis, referred to the congested condition of his liver. On Jan. 15th bleeding occurred into the mouth and he lost about half a pint of bright blood. On the 16th the bleeding occurred again and he lost two tablespoonfuls. On the 17th the bleeding again occurred to a considerable amount, and he noticed that the blood issued forth in jets into the mouth. On the 18th the same occurred. Dr. Norton saw him on the 16th, and noticed an ulcer the size of a threepenny-piece on the left side of the hard palate, about opposite the second molar tooth and close to the alveolus. Arterial blood was spurting in a jet from the centre of this, and the patient was losing a quantity of blood, his mouth being filled with clot. Dr. Norton temporarily arrested the bleeding by pressure and perchloride of iron, but it always recurred. When I saw the patient on the evening of the 18th I noticed that he was pale and exsanguine, with a very weak pulse. The mucous membrane of the roof of the mouth was discoloured by the iron application, and a little clot could be seen on the base of a small superficial ulcer situated opposite the second molar tooth on the left side close to the alveolus. I feared to disturb this and made a very gentle examination. I soon found that a pulsatile swelling the size of a filbert occupied the tissues at the base of the alveolar process. Its margins were not defined, but faded away imperceptibly. The pulsations were strong, so as to lift the examining finger, and felt exactly like those of an aneurysm. There was one large pulsating vessel posteriorly and this I could compress, but without altering the pulsation of the tumour. The teeth were quite sound, and the morbid swelling, whatever its nature, terminated abruptly at the base of the gums. The ulcer was quite superficial and devoid of any induration or distinct margins; it looked like an accidental abrasion from hot food or a piece of bone. The patient was quite unable to give an exact account of the length of time the swelling had existed, and it seemed to me he had hardly much noticed its presence. There was nothing to be seen on inspection of the nares, and there was no bulging of the palate generally to indicate a protruding antral tumour. I directed that a nurse should be employed, with instructions to press upon the spot with a minute sponge soaked in turpentine or with the finger should bleeding recur. On reflecting upon the symptoms of this very unusual case I was rather inclined to look upon it as an example of pulsating sarcomatous disease of the hard palate, yet the bone was not obviously expanded, and the pulsations were far more forcible than I have ever seen in several examples of this disease in the bones of the skull and the femur, ilium and tibia. The supposition of a definite aneurysm of one of the palatine vessels also entered my mind, but I rejected it on account of the rarity of such a malady and the rather diffuse outlines of the tumour. Seeing the inevitable uncertainty of an exact diagnosis, the great hazard of cutting into or cauterising the growth, and the desirability of definitely stopping the bleeding by some proceeding which would be sure and certain, I advised that a portion of the maxilla should be removed so as to ensure complete extirpation of the growth. The patient, who showed great sense and courage in his trying and dangerous position, at once acceded to what I thought best for his relief. The operation was performed on the morning of the 20th. Dr. Hewitt gave the anæsthetic and Mr. Arthur Ward and Dr. Norton assisted me. The details of the operation are of no great consequence; it was performed with saw and cutting bone forceps, the lip and side of the nose being incised and the tissues reflected. There was no unusual bleeding. A portion of the upper jaw was removed, comprising the whole alveolar margin from the second incisor tooth and the hard palate as far as the middle line. The posterior palatine artery spurted persistently and was only restrained by plugging the canal with a spicule of wood. I would, however, draw special attention to the advantages of the lateral posture in all these operations, with the head well hanging over the edge of the table. Dr. Hewitt and myself have drawn attention in detail to its value in a recent paper published in the Transactions of the Royal Medico-Chirurgical Society for 1896. After-oozing was checked by the application of a turpentine sponge, and a small sponge soaked in the same material was left in the cavity. The after-treatment of the case was left entirely in the hands of Dr. Norton, and recovery was uneventful. About two hours after the operation some more oozing came on, which was checked by full doses of ergot and placing the feet in hot water. There was some little trouble in removing the turpentine sponge, as it clotted the blood and was firmly wedged. The horsehair sutures were removed in a week and union of the lip was proved firm and good, the cicatrix scarcely showing. All this time the mouth had constantly been kept flushed with benzoin and chlorinated soda mouth washes.

The highly vascular nature of the tumour was apparent after removal of the portion of bone, for it subsided and contracted, so that what was once a prominent pulsating mass was now only a thickened flattened area of sponge-like tissue, with a small superficial ulcer in the centre. My colleague, Dr. Rolleston, examined the tissue microscopically, and his report fully bears out the appearances observed during life of hæmorrhage and free pulsation:—"A section taken through the growth and ulcer down to the bone showed that underlying the granulation tissue, which was somewhat scanty, there were numerous bloodvessels. The arteries were well formed and numerous; one or two showed slight endarteritis obliterans; there were a few large spaces lined with endothelium with thin walls—probably dilated veins. All the blood channels seen, therefore, had proper walls, and there was no extravasation of blood into the tissues, and no pigmentation to suggest that any past extravasation had occurred. There was nothing to suggest sarcoma or epithelioma. From the small amount of organising granulation tissue, and from the absence of signs indicating irritation of the adjacent mucosa, it appears probable that the ulcer is of very recent date."

[1] A paper read before the Odontological Society of Great Britain on April 13th, 1896.

So far as I have been able to ascertain cases of this nature are exceedingly rare. They do not receive mention in the leading text-books in the articles on tumours of the jaws, and the only reference I have been able to find of anything of the kind is by the late Mr. Salter. Writing in Holmes' "System of Surgery" this authority proceeds as follows: "The tissues about the necks of the teeth are obnoxious to the growth of vascular tumours, which vary from passive *nævus-like* swellings to those other forms of more arterial character—*aneurysms by anastomosis*. I have met with both forms of the disease." Further on in the article Mr. Salter refers to a case somewhat resembling the one I have related, but differing from it in the very important particular that the tumour was pedunculated and attached to the alveolar margin, yet I will ask that it be noted: (1) how recurrent bleedings occurred from too incomplete attempts at removal; and (2) that the phenomena of pulsation were not observed. "A rather severe instance which occurred recently under my care manifested itself in the region that should have been occupied by the left lateral incisor of the upper jaw; but as the laterals were wanting in this person the tumour formed between the canine and central incisor. It had been about six months in reaching its then size, the dimensions of a large marble flattened on the surface. It was of a purplish colour, streaked with many vessels on the surface; it was easily compressed, but was elastic, and when pressed it became pale, exsanguine, and much reduced in size; upon removing the pressure it resumed its previous aspect in a pulse or two. The surface of the growth was tolerably smooth, the base somewhat constricted, being about one-third less than the head of the tumour. The whole of the gums were very red, turgid, and swollen, and the little tongues of gum between the necks of the teeth generally were enlarged and spongy. The patient had suffered no pain, but was conscious of a constant throbbing and pulsation. The most important symptom, however, was the hæmorrhage, which had latterly become a serious source of trouble and distress; it usually occurred at night; it would ooze from the mouth and stain the pillow and sheets and sometimes trickle into the glottis and cause momentary suffocation. The treatment which I first adopted in this case was determined by the very *arterial* character of the tumour. I attempted to destroy it by ligature; a needle armed with a double thread was passed through its base, and each portion of the thread was tied so as to strangulate half of its attachment. The ligatures were tied tight, but did not cut through the substance of the growth. Their effect was for the time to produce complete strangulation; the tumour was tense, and the blood could be squeezed out of it by pressure. This plan did not ultimately succeed, for the size was not permanently diminished and the circulation was re-established. I next removed the tumour by a very tight ligature, cutting it clean off; after this it returned as before, and I finally extirpated it with a scalpel, cutting freely inwards so as to remove a portion of the spongy vascular bone which seemed to form its basal axis. The bone at the base of these growths appears always to be very vascular and open in its texture. Considerable hæmorrhage followed the operation, which ceased under cold and pressure. For a few weeks the cicatrix furnished freely sprouting granulations; these were abundantly cauterised twice a week, and ultimately yielded a healthy scar. In structure this little mass when removed displayed a complicated vascular network, which, under the action of acetic acid, with the microscope exhibited little else than an elaborate aggregation of the nuclei of bloodvessel muscle-cells. The surface was clothed with epithelium and papillæ, like the gum. I believe that no danger can arise in these cases from the use of the knife in at once extirpating the tumour; the bleeding may be profuse for a minute or two, but it soon ceases. I have seen a vascular tumour connected apparently with the periosteum of a loose molar tooth, in which the hæmorrhage was very severe, occurring also at night to an extent that was really alarming; the tumour was a tense pedunculated mass attached to the side of an upper molar tooth half of the fang of which was naked. The extraction of the tooth brought away the tumour with it, which immediately shrivelled up to half its previous volume and became soft and flabby. These tumours, as far as I have observed, occur in adult and middle life; they are perfectly innocent, and show no tendency to return when carefully eradicated."

In vol. v. of the Pathological Society's Transactions the same writer alludes to a tumour of this nature, but it was pedunculated and therefore capable of more easy removal than in my case; moreover, it did not pulsate. It had existed for about twelve months and was situated on the outer side of the left upper gum. When removed it was the size of a Morella cherry, lobulated and vascular. It was not ulcerated at any part. It gave trouble by repeated bleedings, which occurred spontaneously or whenever it was touched. For some few weeks before its removal it bled during the night in such large quantities that the patient was often awakened by the blood trickling into the glottis, her person and pillow being saturated with blood. Upon microscopical examination the tumour was found to consist of a congeries of numerous bloodvessels and connective tissue with no cells. Mr. Salter concludes that this was a vascular tumour *par excellence*, perhaps of the nature of a nævus. The similarity of structure to my specimen is very striking. True aneurysms by anastomosis, from pulsatile angiomata, have been described as occurring in the long bones, and have been eradicated from the lower end of the femur or head of the tibia by gouging. I have never seen such a case. All the instances of pulsating tumours of bone I have seen and studied—and these have not been a few—have always contained sarcomatous structure, mixed with enormous blood sinuses and spaces lined with endothelium. In a clinical lecture delivered at St. George's Hospital by the late Mr. Cæsar Hawkins this eminent surgeon referred to the so-called aneurysms by anastomosis affecting the long bones, and referred to the case of Dupuytren, where the latter fruitlessly tied the femoral artery for this disease. Mr. Hawkins stated his belief that all such tumours are really malignant in nature and are such as we should now call soft pulsatile sarcoma. "If, then," he wrote, "you meet in practice with elastic tumours of the bones, some of which pulsate, you are, I think, to regard them as malignant, and instead of tying the artery, the influence of which at best is but temporary, you ought, if possible, to remove the affected part."[2]

In the end it becomes my duty to justify the treatment I adopted in this very interesting case, which may seem to many needlessly severe and extensive. In the first place, it was clear that, as the patient had already lost a serious amount of blood, any inefficient treatment like partial excision or the cautery might have been followed by recurrent bleeding, and this would have led to a serious, or even fatal, result. The records of one of Mr. Salter's cases amply proved the obstinacy of the bleeding when these growths are cut or pricked. Next there was the great uncertainty of the true nature of the swelling. The ill-defined margins and general infiltration of the parts induced me to believe that the tumour was of a sarcomatous nature, and the grave mistake of dealing with such tumours by partial operations is too clear to need demonstration before this Society. Of aneurysm by anastomosis, which this tumour closely resembles, I have had sufficient experience on the auricle and in the scalp to be strongly impressed with the perils of cutting into the growth itself—and this is enhanced in the mouth, where bleeding is favoured by warmth and moisture, and prolonged pressure cannot be kept up. A free resection of this tumour was in accordance with the soundest rules of surgery, never to cut into a vascular growth. There can be no doubt from the structure of this tumour, composed of a congeries of dilated vessels and sinuses, its ill-defined margins, and its violent strong pulsation, that we may rightly pronounce the case to be a definite instance of aneurysm by anastomosis involving the vessels of the hard palate, and I cannot give any reference to an exactly similar instance. Such cases are doubtless as rare as they are dangerous and difficult to treat. The prognosis is highly satisfactory, for the free removal and the comparatively innocent structure of the tumour make recurrence improbable, and there is every hope that a definite cure is ensured.

Cavendish-place, W.

[2] Clinical Lectures, by Cæsar Hawkins, F.R.S., vol. ii.

GENEROSITY.—As president of the Royal Halifax Infirmary Sir Savile Crossley has marked his term of office by the promise of a munificent donation to the new institution of £3500, in addition to previous donations of £1000 and £500. A ward pavilion at the new infirmary will, at his suggestion, be named after his father, the late Sir Francis Crossley.

ROENTGEN RAYS IN OPHTHALMIC SURGERY.

A NEW METHOD FOR THE APPLICATION OF ROENTGEN RAYS IN OPHTHALMIC SURGERY WITH THE VIEW OF DETECTING THE PRESENCE OF FOREIGN BODIES IN THE EYE AND DETERMINING THEIR POSITION.

BY H. LEWKOWITSCH, M.D.

ROENTGEN rays have been lately very successfully applied for diagnostic purposes in general surgery, more especially for the detection of foreign bodies (metal and glass). Strangely enough no application of the "x" rays has been made up to now in ophthalmic surgery. It would no doubt be of enormous importance if we could employ "x" rays to diagnose the presence of foreign bodies in the eye, there being numerous cases of this description where the ophthalmoscope gives us no help. Let us take the following instances: (1) where the foreign body is very small; (2) when it is embedded in the non-transparent tissues of the eyeball; (3) where a large extravasation of blood obstructs the view of the fundus of the eye; and (4) where the cornea has become impermeable to light. Now in such cases what operative measures have we at present at our disposal? The application of the magnet, although serviceable in many instances, is of no great help in deciding the diagnosis in these critical cases, whilst the magnet will never enable us to diagnose the exact seat of the foreign body. The effectiveness of Professor Hirschberg's operation of extracting small metal pieces out of the eye by the aid of the electro-magnet cannot be denied. Upon reading his reported cases one cannot help noting the comparatively great percentage of failures which have been met with, and it is certain that this operation would have been followed by much more success had it been preceded by some method which might have indicated to the operator the exact spot where to insert his instrument without unnecessarily damaging the eye. But whereas metallic pieces give more or less reflected light to guide us in our operation we are worse off in a case of a small particle of glass being embedded in the eye from which we sometimes fail to get any reflection at all. Several such cases are reported in medical literature where only the final enucleation of the eye has proved the presence of the "materia peccans." Upon studying this question it struck me that Roentgen rays might be serviceable in these cases, and upon experimenting with them I believe I have succeeded in working out a method for their utilisation in ophthalmic surgery. I do not hesitate to publish this method now as I consider my experiments have already advanced far beyond the mere theoretical stage. The first and foremost difficulty one meets with in experimenting with Roentgen rays for this purpose is the fact that the eye being enclosed by four osseous walls, it appears at the first glance impossible to place the photographic sensitised plate in such a position as to obtain a clear and extensive photograph (called the skiagram). To show how this difficulty was overcome (and a good many more presented themselves as I went on) let me relate the method in which I followed up the line of my experiments. First of all, with the view of ascertaining whether the eyeball would prove sufficiently transparent for "x" rays, I inserted a long fine needle in an enucleated sheep's eye. A double image was purposely obtained by moving the Crookes's tube after a one-minute exposure and then allowing another one-minute exposure without shifting the position of the eye or plate. This method of producing a double image I found to be of great help in locating the exact position of the foreign body, more especially with the idea of taking exact measurements from the skiagram as described later on. I might also mention here that for the purpose of gaining a double image I used first two tubes instead of moving the one tube with the view of shortening the time of exposure. In the first instance two Rhumkorf coils and two tubes were used; in the second instance two tubes were run from one coil. However, this plan did not give so clear results as one tube being moved further on after a short exposure.

A sheep's eye was fitted rather tightly into a metal tube with the cornea protruding from the front opening of the tube to the same extent as we see the cornea protruding in the average human eye from the orbital cavity between the two canthi. By placing the sheep's eye in a metal tube (which is impregnable to "x" rays) we thus endeavour to imitate the normal human eye when *in situ*

FIG. 1.

Human eye (eye looking inwards). Double image.

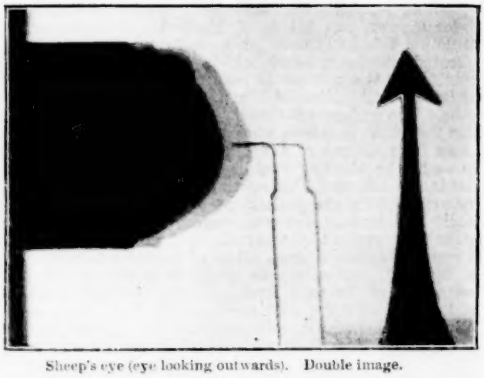
within its osseous surroundings. To obtain the photograph a sensitised glass plate is fixed in a plate holder parallel to the longitudinal axis of the metal tube, touching the

FIG. 2.

Human eye (eye looking outwards). Double image.

same and protruding some distance beyond the cornea of the eye. Opposite the sensitised plate on the other side of the metal tube (that would be the nasal side

FIG. 3.



Sheep's eye (eye looking outwards). Double image.

in the human subject) we place a Crookes's focus vacuum tube at about from six to seven inches' distance. The plane of

the anode should look at the same time towards the protruding part of the eye, from which a skiagram will be projected on the plate to the same extent as the eye protrudes beyond the opening of the metal tube. Only about half of the circumference of the eye can be photographed in this way, but it will be now demonstrated how a much larger area of the eyeball can be actually exposed to the action of the "x" rays and a more extensive skiagram obtained. Just let us think for a moment what effect it will have when the eye is alternately allowed to move to the right and left, looking first towards the sensitised plate (inwards) and then towards the vacuum tube (outwards) to the utmost extent that the natural eye can do *in situ*. Now to determine the position of the foreign body a fixed mark is essential, from which measurements can be made in vertical, horizontal, and sagittal (antero-posterior) directions. For this purpose I constructed a small indicator with three arms corresponding to these three axes. The indicator should

FIG. 4.

Human eye. Single image.

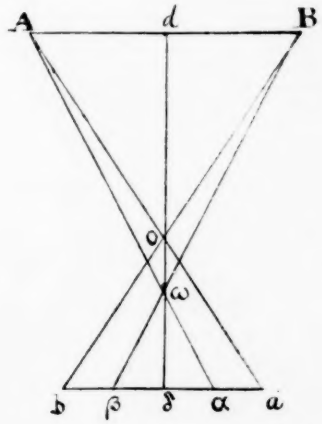
be so fixed that the sagittal arm will point in the direction of the centre of the pupil, almost touching the cornea, and be parallel to the plane of the sensitised plate, as shown in Figs. 1, 2, 3, and 4.

The indicator at first used was of metal, but seeing to what amount the electric sparks were springing over from the point of the sagittal arm to the cornea (caused by the high tension of electricity from the Rhumkorf) I preferred later to use an indicator made of glass. Another auxiliary part in the arrangement is the north pole indicator (NPI), the arrow in the figures pointing upwards. This image is produced by a metal arrow fixed to the plate-holder; by replacing the plate after development guided by this arrow in exactly the same position as previously we are enabled to take measurements, as will be seen later.

After these preliminary arrangements I inserted the point of a pin two millimetres in length into the outer and upper quadrant of the eyeball about nine millimetres distant from the limbus of the cornea, and produced a photograph by illuminating the Crookes's tube for about two minutes in all, shifting after the first minute the position of the vacuum tube (about from three-quarters to one and a half inches to the front towards NPI, and keeping it parallel with the sensitised plate).

Having been so far successful I proceeded now to my final experiment to show that the same results can also be obtained with the human eye *in situ*. Not having at my disposal a suitable patient I experimented on my own eye by the aid of a strong cocaine lotion, using as a foreign body a "sequin," a very thin and small metal disc, about 2 millimetres in diameter, such as is used for the embroidering of ladies' veils. These discs remain by adhesion stationary on the conjunctiva for some length of time, allowing even some movement of the eyeball. The fact that the foreign body was in this position and not inside the eyeball can, I think, be dismissed on the ground that we are actually increasing the difficulties of projection by having the foreign body thus placed, and also the metal disc is liable to move, whereas the foreign body in the eye would remain fixed. Another very important point has to be mentioned here. The operation will never succeed in getting an extensive skiagram, comprising a large area of the eye, unless the corner of the sensitised plate be altered from an angle to a semicircle, when a much larger area of the plate can be inserted into the orbital cavity between the os lacrymale and the eyeball. Being unaware of this I was at first very much disappointed when I obtained a photograph of only a very small portion of the eye just in the corner of the plate not allowing the shade of the foreign body to come into the skiagram at all. With all these due precautions I obtained Fig. 1 and Fig. 2, as well as Fig. 3, this last being from the eye of a sheep. Fig. 1 was taken while my left eye was looking as far as possible inwards, the metal disc being placed about 12 millimetres distant from the outward

FIG. 5.



limbus of the cornea. Fig. 2 was taken while the eye was looking to the extreme limit outwards and the disc fixed also nearly 12 millimetres inwards from the inner limbus of the cornea. The foreign body comes out well in all those skiagrams as double images. Fig. 4, giving only a single image of the foreign body, shows us at the first glance how the foreign body is placed in the upper part of the eyeball, also its distance as regards depth from the centre of the cornea, and all the respective exact measurements can be read of along the sagittal and vertical arm of the glass indicator. So far it would appear that no double image is required at all. The usefulness of the double image comes in when it is necessary to measure the position of the foreign body along the horizontal axis; one could not tell from the skiagram (Fig. 4) whether the foreign body is placed in the temporal or nasal half of the eye. Looking at Figs. 1, 2, 3 we observe at once the variance of the distances between the two vertical arms of the indicator and those of the two images of the discs, these differences being due to the relative positions of the indicator and the disc with regard to their respective distance from the sensitised plate. The exact measurements of these double images permit a definite calculation according to the following geometrical diagram (Fig. 5). We assume for simplicity's sake that the two Crookes's tubes (A and B), the foreign body (o), the point of the sagittal indicator (ω) and the lines $b\,a$ and $\beta\,a$ (giving the respective distances of the double images from each other) are all in one plane. As the Crookes's tube was moved from A to B parallel to $a\,b$ we get a relation between the triangles A o B, $b\,o\,a$, and between the triangles A ω B, $\beta\,\omega\,a$. Now the longer we make the distance $\omega\,d$ in comparison with $o\,\omega$ (by placing the Crookes's tube a good distance away on the same side as the temple), the more will the angle o A B tend to coincide with the ω A B and the angle o B A with the angle ω B A, and we can assume, therefore, that the triangle $a\,\omega\,\beta$ is proportional to the triangle $a\,o\,b$, from which follows $a\,b : a\,\beta = o\,\delta : \omega\,\delta$. As the length of $\omega\,\delta$ is known, being the distance of the sagittal arm from the sensitised plate, we can easily find $o\,\delta$,

the distance of the foreign body from the plate. In all my measurements I made roughly on this principle I may state that I have never been more than one millimetre out of the actual distance. Quite apart from the above method the distances can be measured directly with even greater accuracy in the following way. Having developed the plate it is replaced in the holder in its original position by the aid of the north pole-indicator. We now place a sighting-tube with crossed wires and mounted on a divided plate behind the negative (the sensitised glass plate), and looking through each of the double images of the foreign body successively we point the sighting-tube first (according to Fig. 5) towards the Crookes's tube A along the line *Aa* and then towards the Crookes's tube placed in B along the line *Bb*. So we get two angles, which permit us to find easily the position of the foreign body; in fact the crossing point of *Aa* and *Bb* is the exact spot where the foreign body is to be found.

Messrs. Baker (244, High Holborn), to whose kindness I am greatly indebted for the loan of an improvised apparatus, are now constructing under my direction more complete instruments. When these are finished I hope to extend my researches on this interesting subject. I have also to acknowledge my great indebtedness to Mr. C. Lees Curties for his kind assistance and the able and proficient way in which he helped me in producing the skiagrams.

Wimpole-street, W.

ON THE ABSORPTION OF THE EXTREME VIOLET AND ULTRA-VIOLET RAYS OF THE SOLAR SPECTRUM BY HÆMOGLOBIN, ITS COMPOUNDS, AND CERTAIN OF ITS DERIVATIVES.[1]

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IN the year 1878 the late Professor J. L. Soret of Geneva,[2] in his first memoir on the absorption of the ultra-violet rays of the spectrum by diverse organic substances, announced the fact that diluted blood, when examined with the aid of a spectroscope provided with a fluorescent eyepiece, presented in the extreme violet, between Fraunhofer's lines G and H, an absorption band which appeared to him to be slightly shifted towards the less refrangible end of the spectrum when the blood solution was saturated with carbonic oxide. Soret[3] subsequently confirmed the accuracy of the above facts, employing the photographic method in his experiments. Since the date of the publication of Soret's short notes on this subject d'Arsonval[4] has independently, and without referring to Soret's observations, described anew the extreme violet absorption band of the blood-colouring matter, but without adding to the facts discovered by the Swiss observer. The complete absence of all reference to Soret's scanty but interesting and suggestive observations in text-books and treatises on physiology and physiological chemistry, the fact, which my observations soon elicited, that the absorption band of Soret is much more distinctive of the blood-colouring matter than the absorption bands in the visible spectrum which have hitherto engrossed the attention of observers, led me to interest myself in an investigation which promises to throw much light on the relations of the blood-colouring matter to other organic proximate principles, and on the transformations which the blood-colouring matter undergoes in the animal economy.

In this paper it is my object merely to communicate some of the more interesting results which I have hitherto obtained, a full discussion of the details of the research, which are of special interest to physiologists and physiological chemists, being reserved for future publication. My observations have, for the most part, been carried out with the aid of a spectrometer furnished with a quartz prism and quartz lenses, and the observations were made with the help of photography. The substances which will be referred to in the statement of results are the following:—1. Oxy-hæmoglobin. 2. Hæmoglobin. 3. The CO- and NO-compounds of hæmoglobin. 4. The iron-containing products of decomposition of hæmoglobin and of oxy-hæmoglobin—viz., hæmochromogen (reduced hæmatin) and hæmatin. 5. Methæmoglobin. 6. Hæmatoporphyrin. 7. Bilirubin, hydrobilirubin, and urobilin.

The following are some of the principal results of the investigation:—

1. The compounds of hæmoglobin with oxygen, carbonic oxide, and nitric oxide present, even in highly dilute solutions, an absorption band between Fraunhofer's lines G and H. As a result of a large number of measurements I conclude that in the case of oxyhæmoglobin the mean ray absorbed coincides with λ 414·0—that is to say, the centre of absorption is slightly nearer the red end of the spectrum than Soret had stated; this observer placed the centre of absorption at *h* (λ 410·1). As Soret had indicated in the case of the compound of carbonic oxide with hæmoglobin the absorption band is slightly displaced towards the less refrangible end of the spectrum. The combination of hæmoglobin with nitric oxide presents an absorption band occupying precisely the position of that of the CO-compounds. In the case of these two compounds the mean ray absorbed corresponds to λ 420·5.

2. When the molecule of *dissociable* oxygen is removed from oxyhæmoglobin, either by the action of reducing agents or by boiling *in vacuo*, the absorption band in the extreme violet is remarkably displaced towards the less refrangible end of the spectrum, the centre of absorption corresponding to λ 426·0. When we reflect that the addition of a molecule of oxygen to the enormous molecule of hæmoglobin cannot affect in an appreciable manner the mass of the molecule we must conclude that the displacement of the absorption band towards the ultra-violet end when hæmoglobin combines with oxygen (all other conditions remaining the same) indicates that this combination leads to a notable acceleration of the intra-molecular movement, which is the cause of the absorption of the extreme violet rays by hæmoglobin.

3. The absorption of the extreme violet depends on the iron-containing moiety of the hæmoglobin molecule, for whereas it is not presented by the albuminous product of the decomposition of the blood-colouring matter it is characteristic of the acid compounds of hæmatin and of hæmochromogen.

4. Solutions of alkaline hæmatin, even when enormously diluted (1:30,000 of water), exert a general absorption of the ultra-violet and extreme violet, but present no trace of definite absorption, either in the extreme violet or the adjacent ultra-violet region. The compounds of hæmatin with acids—e.g., hæmatin hydrochloride—present even in solutions of great dilution (1:25,000—1:50,000) an intense absorption band, which encroaches more and more on the ultra-violet as the strength of the solution increases. In a solution containing one part of crystallised hæmatin hydrochloride in 20,000 parts of glacial acetic acid the band extends between *h* and M, the most intense absorption being between *h* and L. The less refrangible border of this band is sharply defined, whilst the more refrangible border is less definite. As the solution is diluted the band becomes narrower through less and less of the ultra-violet being absorbed. In highly dilute solutions the band which is still intense absorbs both H and K. The acid compounds of hæmatin exhibit, therefore, an absorption band, which is exactly on the boundary of the ultra-violet proper, and which extends further and further into the ultra-violet as the concentration of the solution increases.

5. Solutions of hæmochromogen (reduced hæmatin of Stokes) exhibit an intense absorption band between *h* and G. The band has the same position as the band of CO-hæmoglobin, but is more intense. When one part of hæmochromogen in 25,000 parts of water (the stratum examined being 10 mm. thick) an intense absorption band occupies the region between λ 410·0 and λ 430·0. From the examination of solution of various strengths it results that the mean ray absorbed corresponds to λ 420·0.

[1] A paper read before the Royal Society on Feb. 11th, 1896.

[2] Recherches sur l'Absorption des Rayons ultra-violets par diverses Substances, Archives des Sciences Physiques et Naturelles, vol. lxi. (Geneva, 1878), pp. 322-369.

[3] Ibid., vol. lxvi. (1883), pp. 194, 195, and 204.

[4] Archives de Physiologie Normale et Pathologique, cinquième série, vol. ii. (1890), pp. 340-346.

6. The absorption of the extreme violet and ultra-violet by methæmoglobin indicates that this body is the product of a partial decomposition of the molecule of oxy-hæmoglobin.

7. The band in the extreme violet (and ultra-violet), which is characteristic of hæmoglobin, its compounds, and certain of its iron-containing derivatives, in no respect depends upon the iron in the molecule. This conclusion is based (1) on the fact that none of the compounds of iron, organic or inorganic, possess the property of producing a definite absorption in the extreme violet or the adjacent ultra-violet; and (2) upon the study of hæmatoporphyrin, a body derived from hæmatin by the removal of the iron which this body contains. Acid solutions of hæmatoporphyrin of extreme dilution exhibit an absorption band between *h* and H. If the solution be slightly more concentrated K is absorbed, and with increasing concentration of the solution the absorption of the ultra-violet extends more and more. Alkaline solutions of hæmatoporphyrin absorb the same spectral region, but the intensity of the absorption is greater.

8. Neither bilirubin, hydrobilirubin, nor urobilin presents any definite absorption band in the region of the spectrum where the absorption band of hæmoglobin and its derivatives occurs.

ON VARIOUS FORMS OF TALIPES AS DEPICTED BY "X" RAYS.[1]

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CONSULTING SURGEON TO CHARING-CROSS HOSPITAL.

(*Continued from p. 336.*)

As stated in my last paper, all that class of deformity in which the heel so falls as to lie nearly in severe cases completely in a right line with the leg, or in the worst cases sloping from that line forward, are classed together under the term "calcaneus." The diagnosis is easy, for if in all its forms the leg be looked at from the side, backward projection of the heel is found to be absent; the tendo Achillis no longer forms a broad ridge with a parallel elongated pit on each side; it lies flat, flaccid, and thin close to the tibia—in fact, the back of the leg is in its lower third either a straight outline or in bad cases (see Fig. 3, p. 235) there may be a little semi-annular protrusion at the level of the malleoli, from the lower edge of which the line runs straight down or even slopes forward. But the projection of the heel thus absent in the normal place is transferred to the sole, where it usually is considerable. Of this deformity there are three forms. The nomenclature of the divisions is not very happy, as in reality the generic name includes differing conditions, wherefore clumsy qualifying adjectives have to be employed. Thus modern works speak of talipes calcaneus congenitus, talipes sursum flexus, and talipes sensu strictiori. It is to the first and second of these that I would limit the name "calcaneus," calling the last (Figs. 3 and 4) "pes percavus." The congenital form is undoubtedly due to position *in utero*.[2] It is in reality, as said in my previous paper, hyper-extension (dorsal flexion) of the ankle-joint without, save exceptionally, distortion of tarsal bones. The amount and duration of treatment depend on two factors—viz., on the period of gestation, when the foot became fixed in the faulty posture, and on the length of interval between birth and the commencement of treatment. The former must be more or less conjectural. Mode of birth, such as breech presentation with lower limbs straight, restriction of mobility in knee and hip, also signs of pressure on, and ill-development of, foot afford grounds for deduction. Unless the intra-uterine causes have begun very early, which is somewhat unusual, but little is required to rectify the malformity, if it be observed and treated at the time of, or a few hours after, birth. In such cases some persistent stretching downward of the foot for about six or eight minutes with a firm but gentle hand, the application to its dorsum while thus plantar-flexed of a cardboard, tin or poroplastic splint will suffice, but the splint must be removed daily or even oftener, the extremity rubbed, moved, and after washing, &c., be again splinted. Even when quite cured by these means the nurse or mother must for some months to come prevent relapse by frequent plantar flexion of the extremity. I have seen neglected feet that have been employed in walking and have either had nothing done or have suffered inadequate treatment, where section of the anterior tendons was necessary, but my experience leads to great scepticism as to the necessity for such operation during the first six or eight months of life and *a fortiori* during the first few hours during which the deformity should be attacked. Prognosis of the other two forms is not good; it depends in great measure on the course of the originating paralysis. Hence massage, passive and active movements are even more important than in the other forms of talipes. Electricity by continued and interrupted current, one or both, should be used, not only to ascertain what contractility may remain, but also as a remedial measure. At the same time the sharp bend of the tarsus which the weakened muscles are quite unable to overcome is to be rectified as far as possible by manual and instrumental extension, and when it is strongly marked by such operative measures—division of fascia and ligaments—as were advised for the same element of the equinous deformity. Such are, however, to be cautiously employed; the foot in these cases is very feeble, and nothing beyond what is absolutely necessary should be severed. Should sufficient power remain in the surals shortening of the tendo Achillis, either by Mr. Willett's or by Mr. Walsham's method, produces often an immediately satisfactory result, but it must, unfortunately, be confessed that in a large proportion of the cases the benefit is not maintained. Indeed, it would seem that permanent success can hardly be assured unless an amount of power exceptional in calcaneus is retained by the surals; in such favourable cases however it is quite possible that the means previously mentioned added to those indicated in the sequel would have produced at the end of a given number of months an equal or even a better result. Nicoladoni, taking the peronei tendons out of their groove, severing them, and removing a certain quantity of the outer margin of the tendo Achillis, attached with fine sutures the two together. To justify such procedure the surals must be quite powerless and the peronei perfectly healthy. I have no personal experience of this ingenious device, not having of late years met with a case fulfilling those two essentials. Of course, the peronei can never fully replace such a strong mechanism as the combined gastrocnemius and soleus, but some power on the os calcis is better than none at all, especially as it may be somewhat supplemented by extraneous means.

That last sentence leads to the subject of instruments, their value when properly devised and their injurious effects when abused. All portable appliances for club-foot should effect their purpose without inflicting on other parts injury, which may be nearly as bad as, or even worse than, the original trouble. Also the state of the muscle or muscles to be assisted must be considered. For instance, some disease may have rendered a muscle or a group of muscles insufficient to support the body weight though still adequate to uphold some portion of it. If an instrument be employed which takes upon itself the whole of the work it throws those muscles out of employ, they can but get weaker;[3] or certain muscles may be unable either to place or maintain an extremity in the normal position unless assisted by the surgeon's hand or by properly directed spring power. To force such an extremity into position, to fasten upon it an appliance either stiff or with too violent springs during all its movements and exercises, will probably confer while the instrument is in place a fallacious appearance of improvement; it will more certainly weaken the muscles that are still to some degree valid, and each investigation at a few weeks' interval will reveal more and more inability to rectify the deformity. Now it is the aim of surgery to restore this power and to avoid condemnation to a life-long use of irons.

The skiagrams of equinus and calcaneus published in my last two papers show the remarkable bend in the mid-tarsal joint. Any appliance consisting of an entire and unjointed sole cannot fight against that condition which, after such

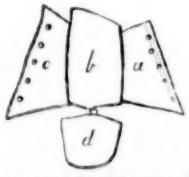
[1] The skiagrams are taken by Mr. Sydney Rowland, Shuter Scholar, St. Bartholomew's Hospital.

[2] See Parker and Shattock, Transactions of the Pathological Society, vol. xxxv., p. 423, Hoffa, Walsham, and others.

[3] There are cases of complete or almost complete paralysis or muscular degeneration from long disuse which show month after month no sign of improvement; one learns to recognise these even at the first or second investigation, and to know that some strong, even stiff, mechanism is the only way of enabling the unfortunates to get about; but this is no excuse for using that last resource on less hopeless cases.

division of parts as has been described, is usually the only, or at least the chief, thing to be overcome.[4] Lewis Sayre of New York divided an ordinary lacing boot into an anterior and posterior part, joining the separated portions of the sole by a ball-and-socket and of the uppers by india-rubber sheeting. Mr. Richard Davy followed close on the same lines. Both contrivances have many objections and inconveniences. My shoe consists of two thin steel plates

FIG. 5.



Sole and lappets of shoe jointed opposite the mid-tarsus.
a and *c*, Lappets with lace holes. *b*, Sole-piece.
d, Heel-plate. The lappet fastening the heel is omitted.

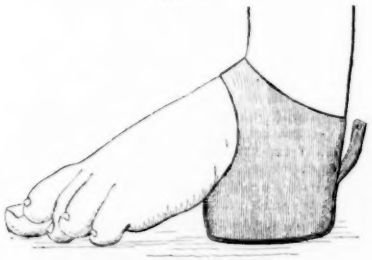
for the front and the back of the foot respectively, and each bent so as approximately to fit the curve of the part. They are jointed together by two loops or eyes that play within each other like the links of a chain. Both portions are enveloped in coutil or some such strong material, which continued on forms the lappets, which, on being laced, secure the appliance to the extremity (that to the heel portion is seen in Fig. 6). To the outer margin of the heel-plate is fixed an upright (simply a straight one in equinus) which carries atop the usual calf-plate. The upright is not intended to exercise any force and need only be very light. Riveted to the edges of the sole-plate is a very small eye or loop of steel. To apply turn the upright on its hinge back and out of the way, hold the heel and the sole-plate against those parts of the patient, bending the shoe in such direction

FIG. 6.

The Barwell shoe as it looks when applied. The upright is of the form intended for varus.[5]

as will allow it to be laced on the heel portion first and with the plates lying fairly to the corresponding portions of the foot however distorted. Buckle the calf-piece in its place, tie a loop of cat-gut in the eye at the sole, and stretch between it and the chain at the calf-piece a sufficiently strong indiarubber spring. This shoe is applied outside the stocking and over it the patient can wear an ordinary walking shoe. With a little ingenuity the instrument can be almost entirely concealed. For calcaneus the great desideratum is to raise the os calcis. I do this by means of an accurately fitting sock (in some forms of foot a slit with lace holes is necessary) embracing the depressed heel and provided with an accessory part that passes over the neck and head of the astragalus. A piece of strong webbing is firmly sewn to the sock so that one end lies in the middle of the front border of the heel-piece, is stitched beneath it, and also to the back where it continues to be sewn to the sock for an inch or more, lying thus for that part of its course behind the Achilles tendon. This appliance is put on over a well-fitting stocking (silk is best) and inside the out-door shoe, which only differs from an ordinary shoe by having a round socket right through the heel from side to side. Into this socket is

FIG. 7.



Calcaneus percavus with sock applied.

secured, but so as to permit free movement to the foot, either a single or double very slight upright with calf-plate. The webbing at the back of the sock is connected by an accumulator to eyes, where the uprights and calf-plate meet or, in some cases, by one on each side. The power thus applied not only draws up the heel, but also, by means of the band running over the instep, depresses the abnormally raised head of the astragalus. In the form of the distortion termed "sursum flexus" the lifting of the heel thus effected aids progression in that it brings the front of the foot also into better position. In cavus, such as is shown in Figs. 3 and 4, the toes are sometimes sufficiently depressed to cause the patient to trip. This may be obviated by an indiarubber spring going from the calf-plate to a lappet on the front of the boot. These mechanisms are very valuable each in its own special case. In using them it must be remembered that the spring force is not intended to rectify the deformity all at once, but by gradual influence more or less rapid or more or less slow, as the case may be.

Wimpole-street, W.

[4] Scarpa's shoe, no doubt a creditable instrument at the time of its invention, is faulty in many ways besides the oneness of the sole.

[5] For equinus the upright should be straight. If much varus twist be also present one eye on the outer side of the sole-plate is required; if the equinus be pure and without varus, as in Fig. 1, an eye on each side is necessary.

THE TELEPHONE AND ITS APPLICATION TO THE DEAF.

BY BERTRAM THORNTON, L.R.C.P. LOND., M.R.C.S. ENG.,

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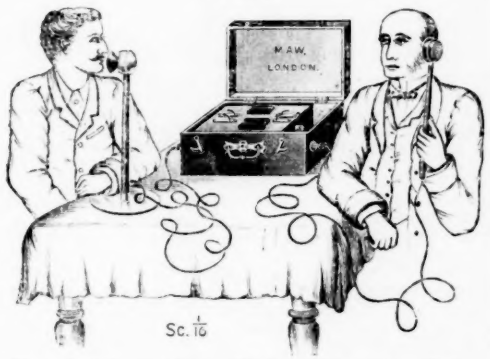
THE remarkable advances in the application of electricity to the daily requirements of mankind, and more especially the wonderful invention of the telephone, have doubtless stimulated many scientific minds to devise some apparatus to assist the deaf to hear. It has been stated that Dr. Bell, the inventor of the telephone, in his efforts to contrive an electrical instrument for this purpose, hit upon the marvellous contrivance which now plays such a large share in the social and mercantile circles of all civilised countries.

Up to the present time there is no instrument prominently before the profession which on the lines of the telephone is intended to assist the hearing of deaf persons. It is with no wish to claim originality or any special knowledge of electricity, that I desire to call attention to one of the more recent modifications of the telephone which was brought to my notice in the summer of 1894. Through the courtesy of the manager of the General Electric Company I had the opportunity of investigating the powers of this instrument, and I soon came to the conclusion that it was likely to be of material service for deaf people if it could be adapted to their special requirements. Further experience confirmed my original opinions and a considerable portion of my spare time has been spent in testing its powers on deaf mutes and deaf patients and in contriving suitable handles, switches, &c., in order to adapt it to the peculiar needs of the deaf. As medical officer to the Margate Branch of the Deaf and Dumb Asylum, Old Kent-road, with the charge of 300 deaf mutes, my first thought was to find out whether the

instrument could be made of service in their education. The head master, Dr. Elliott, cordially fell in with my desire and has given me valuable assistance. In investigations of this sort one is met by the initial difficulty that there is no convenient method of estimating the volume and intensity of sound. Incidentally one would call the attention of scientists to the need of a practical "sonometer" or "phonometer," in the hope that an inventor may be stimulated to design such a desirable instrument. The usual methods of testing the hearing powers by means of whistles, bells, musical instruments, the ticking of watches, and tuning forks are both clumsy and unscientific. What is required is an inexpensive instrument contrived on scientific lines, with a definite and easily applicable unit of sound. It is, perhaps, unnecessary to allude to the care that must be taken in testing the hearing powers of deaf mutes with the tuning fork and other methods; it is most difficult to make a deaf-mute child distinguish between "sound" as appreciated by the auditory nerve and "vibration" as felt by the sensory nerves. After all, the human voice is perhaps the most useful instrument in testing the hearing powers of very deaf persons for educational purposes. If a deaf mute cannot be made to hear the voice of his teacher with or without the assistance of some mechanical contrivance, the results obtained by tuning forks, &c., fade into a question of merely clinical interest.

It is no part of my intention to add to the length of this paper by quoting the statistics of asylums for the instruction

FIG. 1.



Shows the instrument in use. The transmittor would usually be held in the hand, detached from its base. It is not necessary for the speaker's mouth to be so close to the instrument as shown in the sketch.

of the deaf; those interested in the subject should consult among other works those of Hartmann, St. John Roosa, Mygind (1894), and Love and Addison (1896). In every institution for the education of deaf mutes a certain proportion of the children possess some degree of hearing; it would not perhaps be over-estimating the percentage to say that, speaking generally, from 10 to 20 per cent. of these children are capable of hearing with or without instrumental aid vowels or words and sentences. The less fortunate ones must rely entirely on lip reading or on the sign system of education. The investigations I carried out with the assistance of Dr. Elliott at the Margate Asylum showed that the telephone promised to be of material assistance in at least from 10 to 15 per cent. of the children. For some years past an excellent modification of the ordinary binaural stethoscope with a metal bell-shaped mouthpiece has been used at the Margate Deaf and Dumb Asylum for all children with any useful degree of hearing; this instrument was specially devised by Mr. Golding-Bird, the consulting surgeon to the asylum. In using this contrivance it is necessary for the mouth of the speaker to be almost in contact with the bell-shaped mouthpiece. With the ordinary speaking-tubes and trumpets it is also essential that the mouth of the speaker should be directed into, and closely applied to, the orifice of the instrument; by this means it is well known that the intensity of the voice of the speaker is increased to an almost painful degree, but the effort of keeping the mouth applied immediately to the mouth of the tube or trumpet prevents the hearer from witnessing the movements of the lips and general expression of the speaker—a most important consideration with deaf people.

With the telephone I found that one could produce an intensification of the voice at least equal to the most approved form of ear-trumpet at a distance varying from six inches to a foot from the mouth of the transmitter; by approaching the mouthpiece to within two or three inches the sound was obviously distressing to some of these deaf mutes. At a distance of a foot from the mouth of the transmitter we were able to make some of the best "hearing children" easily hear sentences of familiar words spoken in a low conversational voice, the speaker being inside a room and the child outside with the door shut. In testing deaf and dumb children it is, of course, essential to use words whose sound is familiar to them; if words are used whose sound is unfamiliar they are unable to reproduce them either by speech or writing; in the same way a person with normal hearing would be unable promptly to repeat a sentence of some unknown language. With the telephone as well as with other instruments that assist the hearing powers vowels are obviously more clearly heard than consonants, but there is this important advantage with regard to the telephone that the speaker has not to approach his lips so close to the transmitter, consequently the listener is more easily able to read the lip and lingual movements and observe the expression of the speaker's face. In the great majority of the children I examined at the

FIG. 2.

Shows (1) the case with three dry cells, wires, and connecting-plug; (2) the receiver lying down; and (3) the transmittor standing up on its detachable stand.

asylum with any hearing power at all it was found that the tuning fork was not heard in contact with the forehead, but in every instance it was clearly heard when the base of the vibrating fork was placed in contact with the mouthpiece of the transmitter, and in several cases the vibrations were heard for a considerable period. A larger proportion of the above-mentioned children were able to hear the tuning fork vibrating one inch distant from the ear (not in contact), but with one or two exceptions *all* of them heard the vibrations when the fork was held within an inch of the mouthpiece of the transmitter. In these experiments every care was taken not to confuse auditory sensation with tactile sensation.

By the use of this instrument, the receiver being closely held to the listener's ear, the sound of the speaker's voice is reproduced opposite to, and within an inch and a half of, the membrana tympani; the sound waves being confined in the external meatus there is no loss by radiation. To get the best results it is necessary for the speaker to speak clearly, distinctly, and without unduly raising the voice. Excessive loudness of the voice or too close an approximation of the speaker's mouth to the transmitter painfully increases the intensity of the sound, and at the same time the clearness of the words is impaired or altogether obscured. My experience tends to show that this modification of the telephone promises to be of material use in the education of those deaf mutes who possess a fragment of hearing power, and it has the following important advantages over the single speaking tube that is sometimes used: firstly, that the wires from several receivers can be coupled

up to one transmitter, and thus a teacher can instruct a group of children at the same time; and, secondly, that, as it is not necessary for the teacher to apply his mouth close to the transmitter, the pupils have a full view of his facial expression and lip movements, which is not the case when he has to direct his attention and his voice into the mouth of a speaking tube or trumpet.

In the experiments I have made with patients suffering from lesser degrees of deafness than the deaf-mute children at the Margate Asylum the utility of the telephone has been proportionately more apparent. I will mention two cases in illustration. The first was that of a young woman with nerve deafness so extreme that it was necessary to speak at the top of one's voice within two or three inches of her ear to enable her to hear, but with the telephone I was able to converse in a subdued voice with my mouth twenty-six inches away from the transmitter; in this case she received some assistance from reading my lips, though she was only a beginner in this accomplishment. The second case, a man with a similar degree of deafness, was able to hear his wife and myself conversing with him in tones hardly raised above a whisper, we being inside a room and he being outside with the door shut. I venture to give these two cases instead of quoting tuning-fork statistics because they convey approximately some notion of the possibilities of this instrument.

Whether future experience will bear out my preliminary investigations only time will show; the opportunities of a provincial surgeon for carrying out extensive scientific observations are naturally limited. In addition to much kind help from Mr. Max Einswanger of the General Electric Company I have received valuable assistance from Messrs. Maw, Son, and Thompson, who have skilfully carried out my suggestions as regards providing the instrument with appropriate-shaped handles, dry-cell battery, and case. The latter firm will be glad to show the apparatus to anyone interested in the matter. I understand that the cost of the instrument will place it within the power of purchase of persons of moderate means. Like all electrical contrivances it has the inevitable drawback of a battery and wires. It will consequently be suited to the more stationary requirements of the domestic hearth and the dinner table; in the church, theatre, or in courts of justice it could be easily fitted up at trifling expense for the convenience of persons with defective hearing. My friend Dr. Benson of Maida-vale has suggested that "Lamprophone" (λαμπρός, clear; φωνή, voice) would be an appropriate name in the event of the instrument proving itself to possess sufficient practical utility to warrant it requiring a special term to describe it. In conclusion, I wish to disclaim any special originality as an inventor; but in my attempt to adapt other men's ideas for the benefit of deaf people I trust that I may have done some small service, even if this paper only serves to stimulate others to carry my investigations to a more perfect issue.

Margate.

THE INFLUENCE OF GLYCERINE IN CULTURE MEDIA ON THE DIPHTHERIA BACILLUS.

BY A. M. GOSSAGE, M.B. OXON.,
ASSISTANT PHYSICIAN TO THE WESTMINSTER HOSPITAL.

[*From the Westminster Bacteriological Laboratory.*]

DURING the course of an inquiry into the life-history of the diphtheria bacillus outside the body I was lead, owing to a kind suggestion by Dr. Blaxall, to try the effect of cultivating it on media to which glycerine had been added in varying proportions. It has long been known that the Klebs-Löffler bacillus will grow more profusely on nutrient agar-agar to which 5 or 6 per cent. of glycerine has been added than on ordinary nutrient agar-agar. Dr. Kanthack and Mr. Stephens, moreover, in a paper read before the Pathological Society on Jan. 21st, recommended a culture medium containing alkalinised ascitic fluid, agar-agar and 5 per cent. of glycerine, and considered this medium to have a strong selective action on the Klebs-Löffler bacillus. In view of this apparently favourable influence of glycerine it seemed not unlikely that the addition of larger proportions of glycerine might make culture media still more selective for the bacillus of diphtheria. On nutrient agar-agar media, to which from 12 to 15 per cent. of glycerine had been added, I found that those organisms which are commonly obtained when a serum tube is infected from a throat grew decidedly less readily than the diphtheria bacillus. Agar-agar tubes, containing varying proportions of glycerine between 6 and 15 per cent., were infected at the same times and with the same materials from cases of diphtheria as tubes containing serum or Löffler's serum, and thus impure cultures of the Klebs-Löffler bacillus were obtained. The cultures on the media containing the largest proportion of glycerine were always the least impure, although the employment of nutrient agar agar containing 18 per cent. of glycerine did not completely eliminate the contaminating micro-organisms. These large proportions of glycerine seemed to be specially unfavourable to the bacillary forms of these micro-organisms, although torulæ, sarcinæ, and cocci all appeared to grow less readily than the diphtheria bacillus. The addition of at least 9 per cent. of glycerine was required to get a less impure growth than that obtained on serum; indeed, when only 6 per cent. was added the growth was usually more impure than that on serum. My experience with the medium recommended by Dr. Kanthack and Mr. Stephens was not favourable. I have made twenty separate comparisons between this medium and serum by infecting tubes of each at the same times with the same swabs from the throats of diphtheria cases. In all except one instance the growth after twenty-four hours of the Klebs-Löffler bacillus was more impure on this medium than on serum. A further objection to this medium was found in the fact that the bacilli grown on it did not stain so readily with methylene blue as those grown on serum.

The practical value of the selective action of nutrient agar-agar media, containing large percentages of glycerine, on the Klebs-Löffler bacillus was much discounted by the very small total growth obtained after twenty-four hours' incubation, where the proportion of glycerine present was 12 per cent. or higher. A trial was, therefore, made with serum to which 6, 10, or 12 per cent. of glycerine had been added. By this means beautifully clear media were obtained, which seemed to require heating to a degree or two higher than ordinary serum in order to induce firm setting. With these media very similar results were obtained to those with glycerine agar-agar. When 6 per cent. of glycerine had been added the resulting growth twenty-four hours after infection from a case of diphtheria was about the same as on ordinary serum, and there seemed to be no more selective action on the Klebs-Löffler bacillus than with serum. With the employment of higher percentages of glycerine there was apparently a decided selective action, but the total growth was proportionately diminished. In two cases apparently pure growths were obtained on 10 per cent. glycerine serum, whilst the cultures on serum and the Kanthack-Stephens medium, obtained by infection with the same materials at the same times, were very impure from the presence of other bacilli and cocci. On the other hand, however, on two occasions streptococci were found in the cultures on 12 per cent. glycerine serum, while the growths on serum and the Kanthack-Stephens medium were free from this impurity.

A more promising result from my experiments than this selective action was the manner in which the individual bacilli stained with Löffler's alkaline methylene blue after growth for twenty-four hours on these glycerine-containing media. The bacilli showed a remarkable affinity for the stain and metachromatism was very conspicuous. After growth on glycerine serum each bacillus showed, when stained, a deep violet dot at each pole, with frequently one or more dots in between, whilst the remainder of the bacillus was colourless or faint blue. The other micro-organisms in specimens from impure cultures were nearly always stained blue, the only exception being that occasionally a few cocci took up the violet colouration. This staining result was invariable in twenty-one instances in which specimens were made from glycerine serum cultures obtained from cases of diphtheria, and in each case all the diphtheria bacilli were so stained. A similar constant result was obtained with pure cultures on glycerine serum and cultures obtained from two guinea-pigs that had been infected with diphtheria. Specimens from growths on agar-agar to which 9 or more per cent. of glycerine had been added stained with methylene blue in exactly the same way, but the bacilli were more irregular in shape and size than those grown on glycerine serum; some were remarkably large and thick even in

specimens from pure cultures of diphtheria on the glycerine agar-agar.

All persons with experience in staining diphtheria bacilli with alkaline methylene blue know how variable may be the results obtained. Sometimes the organisms take up the stain in a precisely similar fashion to that in which, as described above, the bacilli grown on glycerine serum take it up; in this case, however, as a rule only some of the bacilli become so stained. At other times, while the bacilli still show polar staining, the stained parts are blue and not violet. Not uncommonly, too, no polar staining is obtained, the ends of the organisms appearing drawn out, tapering, and unstained, whilst only one or more dots in the centre are stained. Lastly, the stain may be quite evenly distributed, and the bacilli can only then be recognised as diphtheritic by their clubbed ends and slight curving. Bacilli are not infrequently found both in normal and in inflamed throats which grow readily on serum, and which are so extremely like the Klebs-Löffler bacilli that they have been called pseudo-diphtheritic. These bacilli are usually stained quite evenly by methylene blue, but sometimes they are more deeply stained at the ends, and the ends may be clubbed and the bacilli themselves slightly curved. Hence it is fairly often a matter of very considerable difficulty for the most expert observers to say whether a specimen from a particular culture contains any Klebs-Löffler bacilli or not. Some pseudo-diphtheritic bacilli of this character were obtained by me from the throat of a healthy child and were in stained specimens very difficult to distinguish from diphtheria bacilli. When grown on glycerine serum or glycerine agar-agar, however, these bacilli showed, on staining with methylene blue, no metachromatism and were stained blue and not violet. They were thus easily distinguished from diphtheria bacilli. The growth of these bacilli on media containing a considerable percentage of glycerine was much less profuse than that of the Klebs-Löffler bacilli.

I have ventured to publish this short communication, although I am still experimenting on the influence of glycerine in culture media on the bacillus of diphtheria, because I believe that the employment of glycerine in such culture media will render the recognition of the Klebs-Löffler bacillus more speedy and more certain. In the laboratory we were able almost invariably to pick out by their appearance under the microscope stained specimens of the cultures on these glycerine-containing media from specimens of the cultures on serum or the Kanthack-Stephens medium, although the various tubes had been infected at the same time with the same swabs and the specimens had been stained for the same length of time with the same stain. The appearance of the Klebs-Löffler bacillus, after growth on these glycerine media, is, when stained with methylene blue, so characteristic that the merest tyro could recognise it after being once shown a specimen. To get this characteristic staining it seemed to be necessary to have about 9 per cent. of glycerine in the culture medium, although I only once failed with 6 per cent. glycerine serum, and then most of the bacilli showed the characteristic staining. I would, therefore, recommend the addition of about 9 per cent. of glycerine to the culture media for the diphtheria bacillus, and I prefer glycerine serum to glycerine agar, as the growth is usually greater and the appearance of the bacilli grown more characteristic. With higher percentages of glycerine the total growth is rather scanty, while any selective action exerted by the additional glycerine does not seem to me to offer sufficient compensatory advantages for the diminished growth.

Upper Berkeley-street, W.

A CASE OF DOUBLE EMPYEMA; RECOVERY.

BY W. HUNTINGTON, M.R.C.S. ENG., L.R.C.P. LOND.,
MEDICAL OFFICER OF HEALTH OF ST. ANDREWS.

A BOY aged eleven years first complained of feeling unwell on May 21st, 1895. I saw him in the evening, at which time he had severe pain in the left side. The temperature was 104° F., the pulse 120, the respirations 60, and a well-marked friction sound was heard. A diaphoretic was given and poultices were ordered for the chest. The following morning the chest was strapped and in the evening the pain was much easier and the temperature had fallen to 101°, the respiration to 48, and the pulse to 120. On May 23rd the morning pulse was 96, the respiration 30, and the temperature 100°; in the evening the pulse was 96, the respiration 30, and the temperature 100°. On the 24th the morning pulse was 116, the respiration 30, and the temperature 99°; in the evening the pulse was 120, the respiration 35, and the temperature 100·4°. Effusion on the left side was now above the angle of the scapula. On May 25th the morning pulse was 132, the respiration 30, and the temperature 99°; in the evening the pulse was 132, the respiration 30, and the temperature 101°. He now complained of pain in the right side and a well-marked rub was found there. On May 26th the morning pulse was 120, the respiration 45, and the temperature 100·6°; in the evening the pulse was 140, the respiration 42, and the temperature 101°. The effusion on the left side was subsiding and that on the right side increasing, so that dulness was about two and a half inches on the left and just above the angle of the scapula on the right side. For the next ten days the temperature continued between 98·4° and 100°, some days not reaching the latter height. The pulse varied from 116 to 134, and the respiration from 40 to 50 per minute. The breath sounds were quite superficial and there were some moist râles at the bases accompanied by a little rusty expectoration. The dulness had diminished to two finger's breadth on both sides and was not at all marked. Vocal fremitus and vocal resonance were well marked on both sides, but the patient had lost much flesh. Sir T. Grainger Stewart agreed that there was no immediate indication for tapping, though occasion might arise at any time. On the evening of June 6th the patient had a severe attack of dyspnœa, and the pupils were irregular, the left being larger than the right, so I decided to make an exploratory puncture with a hypodermic needle on the left side where the dulness was rather more marked than on the right side. This was done at the eighth interspace below the angle of the left scapula. Nothing came into the syringe, but the needle gave me the impression of being in a cavity, and on withdrawal a small speck of pus was seen in the end. I therefore used a large-sized (No. 3) trocar and cannula and with Dieulafoy's aspirator withdrew fourteen ounces of greenish, curdled pus. The following day the temperature rose to 101·4° and I decided to put in a drainage-tube. The incision was made at the site of the puncture and eight ounces of curdled pus were withdrawn. A dressing of cyanide gauze with plenty of salicylic wool over it and wood wool wadding over that was applied, but in four hours the dressing had to be repeated. The dressings were repeated twice the next day and the cavity washed out with a solution of boracic acid and listerine in water. A fresh dressing was applied almost every day until June 24th, and during this time the amount of discharge gradually diminished and kept perfectly sweet. The temperature, however, had become hectic in character, the pulse varied from 120 to 150, and the respiration from 36 to 50 per minute. The right side remained much the same until June 19th, when there was apparently a slight increase in dulness. The pulse was 154, the respiration 54, and the temperature 102·4°. The patient, too, had become a mere skeleton, there being, for example, hollows between the tibia and fibula along their whole length and a similar emaciation of the rest of the body. The dulness on the right side increased steadily, so I resorted to the aspirator on June 22nd. The puncture was made in the axillary line and sixth intercostal space, thirty-eight ounces of pus being withdrawn. The puncture was carefully closed with collodion. Next morning the temperature was 99° and in the evening 99·8°. Three days later (June 26th) the temperature rose to 101°, the pulse to 144, and the respiration to 57, so the right side was again aspirated, twenty-five ounces of pus being withdrawn. The left side was discharging so little at this time that it was thought best to remove the tube, which had been gradually shortened. The temperature now kept below 100°, until the evening of the 29th, when it reached 102·4°. Aspiration resulted in the withdrawal of seventeen ounces of bloody pus. Next day the temperature kept below 99°, but reached 100·4° on July 3rd, and since the wound on the left side was quite closed I made an incision in the sixth interspace and axillary line on the right side and inserted a tube. About eight ounces of bloody pus were removed. The wound was dressed every day until July 13th and the cavity carefully washed out on each occasion. On July 19th the drainage-tube was removed and in another week the wound was closed. The patient was extremely weak, but rapidly recovered strength, and by the middle of August was quite well and has remained so.

It is interesting to notice how feebly the physical signs

were developed in so grave a case, the dulness being so ill-marked and vocal fremitus and vocal resonance practically normal, the breath sounds, too, were quite superficial and the temperature below 100° after the ninth day of disease until the eighteenth after aspiration. The chief signs for active treatment were a frequent pulse, which became irregular, and dyspnœa. The urine was normal and there was no cardiac murmur. No portion of rib was excised on either side.

St. Andrews.

A CASE OF DIFFUSE PAPILLOMATOUS DEGENERATION OF THE NASAL MUCOUS MEMBRANE.

BY G. HUNTER MACKENZIE, M.D. EDIN.,
SURGEON FOR THROAT AND NOSE DISEASES TO THE EYE, EAR, AND THROAT INFIRMARY, EDINBURGH.

NASAL papillomata are of rare occurrence. The few cases hitherto recorded have generally been instances of single, less frequently of multiple, growths, and their histological characters have usually been rather of the fibrous than of the true papillomatous character. Hence the term "papillomatous fibroma" which it has been proposed to apply to them. In several instances they appear to have been simple hypertrophies of the nasal mucous membrane. Ordinary mucous polypi, it may be mentioned, occasionally develop papillomata on their surface, especially if they have been exposed to external irritation. The following case seems worthy of being recorded on account of the many points of interest which it possesses.

A man aged thirty years came to me on April 2nd, 1896, complaining of partial nasal obstruction and stuffiness. In May, 1887, he appeared to have had both nostrils electro-cauterised on account of thickening of the mucous membrane. There was no history of syphilis, but he was somewhat alcoholic. The mucous membrane

Papilloma of nose. Photo-micograph × 20 D.

in both nostrils was studded throughout by numerous sessile growths varying in size from a pin's head to almost a grain of rice, the size of the great majority of them being about intermediate between these two extremes. They were most abundant on and about the upper regions (roof, outer wall, and septum), but many were located on and about the inferior areas of the nose. Both nostrils appeared to be equally affected. Several of the larger growths were removed with the cold snare, but the greater number could be detached only by means of the nasal curette. Four months afterwards there was no recurrence. The growths were examined microscopically by Dr. R. F. C. Leith, who submitted the following report: "Microscopical examination shows the undoubted papillomatous character of the growths. The central core of fibrous tissue varies in thickness, but is mostly thin. It consists of young vascular fibrous tissue. The epithelial covering is of considerable thickness and, while the lower cells are columnar and elongated, the rest are typical flattened squamous, such as are present in an ordinary papilloma of the skin. Many of the cells show prickle processes. The outmost cells are somewhat flattened, but there is no cornification such as the stratum corneum of the skin presents. The conversion here seen of the columnar glandular epithelial covering of the nasal mucous membrane into cells exactly similar to those of the Malpighian layer of ordinary stratified squamous epithelium is very interesting" (*vide* illustration).

Edinburgh.

NOTES ON THE TREATMENT OF HEART DISEASE BY MECHANICALLY-RESISTED MOVEMENTS.

BY GEORGE HERSCHELL, M.D. LOND.,
PHYSICIAN TO THE NATIONAL HOSPITAL FOR DISEASES OF THE HEART, ETC., SOHO-SQUARE.

PUTTING aside as a point yet to be settled whether the baths in use at Nauheim and their imitations in this country have any real curative power in disease of the heart, the evidence in favour of the practical utility of the resisted movements in selected cases is overwhelming. My experience, however, leads me to believe that we can obtain better and more constant results by substituting a mechanical resistance to the movements, for that offered by a nurse. My reasons are the following. 1. A mechanial resistance is more scientific insomuch as it admits of being exactly measured. 2. It is more constant as it does away with the personal equation of the operator. It is quite impossible even after long practice for a nurse to be certain of offering the same amount of resistance to movements on each occasion, for, as a matter of fact, she does not ever know how much force she is really exerting. 3. With the aid of mechanical resistance we can improve very much upon the Nauheim movements, which I venture to assert are by no means the best which can be devised for the purpose. 4. The exercises which can be used when the movements are mechanically resisted are more rapid in their action than those used in the Nauheim treatment. As an example I have convinced myself by actual observation and experiment that five minutes' use of a certain simple movement will temporarily increase the circumference of the arm of a healthy muscular man by one inch. This it can only have accomplished by withdrawing blood from the general circulation into the tissues of the limb.

To produce a mechanical resistance we may make use of either a pulley weight apparatus or one in which the effect is produced by tension of rubber cords. As a result of my experiments I have decided that the rubber cord presents many advantages. My reasons are mainly the following: 1. In a machine in which the resistance is produced by a weight the force to be exerted by the operator is the same at all points in the range of movement. Moreover, it is actually necessary to exert the most power at the commencement of any given stroke or movement in order to overcome the inertia of the machine and start the weight from its point of rest. Now this is just what we do not want. I am informed by professional gymnasts that it is a fact well recognised by them that a muscle is not able without strain to exert its full force until it has got well under weigh—so to speak—and for this reason they prefer apparatus worked by an indiarubber cord in which the power exerted by the machine slightly increases continually up to the end of the movement. 2. A pulley weight apparatus is more difficult to apply to patients in the recumbent position. On the other hand a machine consisting of a rubber cord passing round pulleys can be attached in many different ways to the bed or the adjacent wall. 3. The difference in price. A pulley weight apparatus costs several pounds; the

alternative machine a few shillings. Personally I use an exercising machine which is on the market and is of American manufacture.[1] It is very perfectly constructed and answers my purpose admirably. It consists of a long rubber cord terminating at each extremity in handles. This cord passes round three pulleys which can be variously grouped and attached by hooks to the wall or to the rails of the bed. We can thus by a proper arrangement of the apparatus oppose resistance to almost any movement of the patient either lying or standing or sitting.

As mechanically resisted movements produce a more marked effect upon the patient than the Nauheim ones, even greater precautions must be taken in administering them. It must be made an absolute rule that the exercises are never to be given except in the presence of a medical man until the treatment has so far advanced that it has been ascertained not only that it is doing good, but also exactly how much mechanical work the patient can stand.

The first exercises must be tentative, using the mildest movements and the lightest resistance. In order that the physician should obtain an intelligent idea of the effect produced the following points should be observed: (1) the pulse-rate must be taken before, during, and after the exercises; (2) from time to time during the course of the treatment a sphygmographic tracing of the pulse must be made before and after the exercises; (3) the rate of respiration must be observed and the effect of the movements upon it; (4) the position of the apex beat before and after the treatment; and (5) the area of cardiac dulness must be noted before and after the exercises. To estimate variations in the size of the heart I am accustomed to depart somewhat from traditional methods and attempt to measure the heart in its longitudinal and transverse diameters. The former may be roughly taken to correspond to the distance of the apex beat from the right limit of cardiac dulness taken at the level of the fourth costal cartilage, and the latter to the extent of the dulness along a line drawn from the xiphoid to the middle point of the left clavicle. In order to secure accuracy we must reduce as much as we can the number of occasions on which error is possible. We have here the advantage of two easily estimated points to measure from, leaving only two lines to be made out by percussion. As an additional precaution it will be as well to note the position of the apex beat with respect to the left mid-clavicular line and also the distance of the left limit of cardiac dulness from the mid-sternal line.

Having thus observed the effect produced by the exercises upon the patient the physician will be in a position to prescribe those suitable for the particular case he is about to treat, the rapidity with which they are to be executed, and the amount of resistance to be used. During the exercises he will be on the watch for and note any symptom, such as dyspnœa, lividity, pallor, faintness, or giddiness, which would show that the exercises were not suitable or were being executed too rapidly. It is this necessity that the patient should be under the observation of a properly trained clinical observer which makes it impossible that a treatment of this kind can ever safely be administered by a nurse—at any rate, until the patient is well advanced towards recovery, and it has been definitely ascertained what exercises he can stand with impunity. Then, and then only, it may be admissible to allow the movements to be performed without the presence of the medical attendant.

Among the advantages of the treatment of failure of compensation by mechanically resisted movements are the facts that (1) we do away with the expense of the nurse, which is often an important consideration in cases where only a certain sum can possibly be afforded to cover all medical treatment, &c.; (2) we keep the treatment in the hands of the medical practitioner, the time occupied being really so small that the treatment can easily be carried out during his daily visit; and (3) we substitute for the fallible muscles of a nurse the unvarying tension of a rubber cord.

Queen Anne-street, W.

[1] The Whiteley Exerciser. 10, Ironmonger-lane, E.C.

A MEETING of the Supreme Grand Chapter of Royal Arch Freemasons was held at Freemasons' Hall on Thursday, Aug. 5th, under the presidency of Mr. W. W. B. Beach, M.P. On the motion of Sir George D. Harris a donation of 100 guineas was voted to Guy's Hospital in aid of the special effort now being made on behalf of the institution.

POISONING BY MAGNESIUM SULPHATE (EPSOM SALTS).

BY J. HEADLEY NEALE, M.B. EDIN., M.R.C.P. LOND.,
PHYSICIAN TO THE LEICESTER INFIRMARY AND FEVER HOUSE.

ON the evening of April 26th I was asked by my friend Mr. Montague Williams to see a lad aged fifteen years at the Midland station, to whom he had been called a few minutes previously, finding him in so critical a condition that he would not on his sole responsibility sanction his removal to the infirmary. The history was as follows. Being constipated on the previous day he purchased a penny packet (one ounce) of Epsom salts at a neighbouring druggist's and took the whole of the contents. Only three slight motions resulted and towards evening he began to feel very sick and ill and remained so through the night. On the following morning his landlady would not allow him to keep his bed so he went to his work at the station as usual, but was too ill to do anything and went to lie down on one of the other boys' beds, vomiting frequently during the day, Mr. Williams not being sent for till nearly 6 P.M. The following describes the condition in which we found the lad. He was lying outside the bed in an attitude of flexion (occasionally varying his position by rolling on to his stomach), perfectly indifferent to his surroundings, but answering questions intelligently when smartly roused. He declared "he had taken nothing the day before but the packet of Epsom salts he got from ——'s." The face and hands were deeply cyanosed, the lips, eyelids, alæ nasi, and auricles being of a dark purple colour, and when the finger was drawn forcibly down the forearm the resulting white line was very slow in regaining its colour, while the conjunctivæ were intensely congested and the pupils dilated and unequal. The covered parts of the body presented a roseolous rash, and there was a zone of herpes zoster in the left sub-mammary region extending round to the back. During the few minutes we stood by his bedside the boy had several attacks of tetanic spasms, affecting the right side of the face and passing down the right arm, together with pronation of the hand. The tongue and teeth were covered with "sordes," the stomach was enormously dilated, and his urine was dribbling away. The right radial pulse was absent and the left hardly perceptible; the heart beats were feeble and could not be counted. The extremities were cold; the axillary temperature was 105° F. We gave the boy a stiff dose of hot brandy-and-water, had him placed on the station ambulance well covered with blankets and packed with hot-water bottles, and he was at once removed to the infirmary, the immediate treatment on arrival being a draught containing carbonate of ammonia, spirits of ether, and tincture of strophanthus. On paying my usual visit the following morning I found that the patient had had frequent vomitings of a greenish fluid. The cyanosis was less marked, the radial pulses were perceptible, and he was altogether better and more conscious of his surroundings. Further examination, however, disclosed that his bladder was greatly distended. He was immediately catheterised and about forty ounces of urine drawn off. By the end of the week he was practically well and was discharged in a few days completely recovered.

I purchased at the earliest moment a packet of the salts which I was assured by the druggist came from the same cask, and through the kindness of Dr. Murrell, who took a great interest in the case, had it analysed by Dr. Wilson Hake, Professor of Chemistry at the Westminster Hospital Medical School, whose report is a follows:—"I have carefully examined the sample of 'purified Epsom salts' from Mr. ——, chemist, Leicester, handed to me by Dr. Murrell in a sealed packet. I find it to be free from all poisonous metals, oxalic acid, or strychnine in any approximate quantity, but I have not looked for *minute* traces; it contains a small quantity of chloride of sodium and some potassium. It is, therefore, what it is labeled—namely, 'Purified Epsom Salts,' and abundant evidence of magnesium and sulphuric acid is to hand. It is also quite neutral in reaction and very soluble in water."

Remarks.—I was not told a single word of the history of the case until I had examined the boy, and I came to the conclusion that he was suffering from some irritant poison. This exactly tallied with Mr. Williams's previously formed

opinion, and I was then acquainted with the story of the packet of Epsom salts. The only thing that suggested itself was "oxalic acid" by mistake, but we at once saw that had a similar quantity of that salt been taken twenty-four hours previously there would have been no necessity for a consultation over the case. Dr. Murrell reminded me that Dr. Luff had recorded a case where death had resulted in an adult male from taking a similar quantity. An interesting feature in the case was that the salts failing to act as a purge produced toxic effects; another the stimulation of certain motor centres, as evidenced by the tetanic spasm of the face and arm occurring coincidently with paralysis of the inhibitory fibres of the pneumogastric to the heart, paralysis of the muscular fibres of the stomach and bladder; and of the muscular coats of the bloodvessels, demonstrated by the absence of the radial pulse and general cyanosis.

Leicester.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

NORWOOD COTTAGE HOSPITAL.

CASE OF SECOND OVARIOTOMY AT THE AGE OF SEVENTY YEARS; RECOVERY.

(Under the care of Dr. JOHN H. GALTON.)

IN the case of ovariotomy reported below there are two points worthy of notice—one is the fact that it was the second ovariotomy performed on the same patient and the other is the age of the patient. Formerly it was more commonly necessary to open the abdomen a second time to remove the other ovary some years after the first ovariotomy; now it is more customary to remove at an ovariotomy the second ovary also if there is any sign of its being diseased. There seems to be a tendency to the subsequent degeneration of the sound ovary after the diseased one has been removed. It is advisable to remove the second ovary at the same time as the first in all women who have passed the climacteric or who are closely approaching it, provided, of course, that this addition to the operation occasions no additional risk to the patient. The presence of a large uterine fibroid would also be an indication for removal of the second ovary. With regard to the second point—namely, the age of the patient—it may be noticed that age seems to be no contra-indication to the operation. Many instances have been recorded of cases of ovariotomy above the age of seventy years. J. Rutherford Morison[1] of Newcastle-on-Tyne recorded five cases all over seventy years of age, and of these only one died. Homans[2] (of Boston, U.S.A.) recorded twelve cases, of whom three died. Mary Sherwood[3] (of Baltimore) collected thirty-eight cases with five deaths. Spencer Wells's oldest case was seventy-one years of age. Keith's oldest case was seventy-three years of age. Terrien removed both ovaries from a woman aged seventy-seven years.[4] Several cases have been recorded of ovariotomies on patients over eighty years of age. Schroeder's case[5] was eighty years of age, and this was also the age of a case operated on by Owens.[6] Edis[7] records a case over the age of eighty-one years. H. Spencer's case comes next,[8] and the age here was eighty-two years and three months. Homan's case[9] was one month older: but J. Paul Bush (of Bristol) has recorded a case[10] in which ovariotomy was performed on a patient who had commenced her eighty-fifth year. It is very satisfactory to be able to add that all these patients over eighty years of age recovered from the operation.

A woman aged seventy years, upon whom Dr. Galton performed an ovariotomy twelve years ago, a report of which appeared in THE LANCET of Dec. 27th, 1884, was admitted to Norwood Cottage Hospital on June 16th, 1896. She had been quite well till six months before, when she first noticed enlargement of the abdomen, which had gradually increased. On her admission the abdomen measured 35½ inches round the waist and 39 inches round the umbilicus. While under observation for ten days these measurements were found to vary from 32½ and 39½ inches to 35½ and 35¾ inches. The features were shrunken and the countenance was anxious. The abdomen was dull to a level of two inches above the umbilicus, the line of dulness varying slightly and resonant in both flanks. Fluctuation was perceptible throughout, but there was a solid feel in the tumour in the right iliac region. Per vaginam a bulging on the left side of the uterus was felt. On July 2nd, at 12 o'clock noon, Dr. Shearer administered chloroform and Mr. Sidney Turner and Mr. Arthur Turner assisted. An incision of two and a half inches was made an inch to the left of the scar of the former operation through the left rectus muscle. On opening the peritoneum some clear fluid escaped and the tumour was found strongly adherent to the anterior abdominal wall and still more strongly to the brim of the pelvis and the anterior surface of the uterus. Dark coffee-ground fluid escaped on puncturing the larger cyst and thick white opaque fluid from the smaller and deeper cysts. To make space for dealing with the adhesions and facilitate the removal of the more solid portions of the tumour the abdominal incision was enlarged one inch. The pedicle was then isolated, transfixed, and tied in double ligature crossed. The adhesions were then separated, only one ligature being required for the deep adhesion, the tumour was removed, and the abdomen washed out with boiled water at 110° F., and the wound closed by five deep silver sutures and five superficial ones and dressed with boracic acid in powder and pads of alembroth gauze. The tumour weighed 1 lb. 14 oz. solid and 240 oz. fluid. The operation occupied one hour. On removal to bed the pulse-rate was 68 and the temperature 97·4°. She was ordered one drachm of hot water every hour. At 9 P.M. the pulse was 76 and the temperature 98·8°, and nine and three-quarter ounces of urine were drawn off at midnight. The voice was strong. On the 3rd the pulse was 86 and the temperature 98·8°. The patient passed nine and a quarter ounces of urine naturally at 9 A.M. At 10 P.M. the pulse was 90 and the temperature 98·4°, and she complained of thirst. She was ordered ice to suck and half an ounce each of milk and barley-water every hour, and one drachm of whisky in milk twice during the night. On the 4th the pulse-rate was 82 and the temperature was 98·6°, and she was ordered one ounce of beef-tea every alternate hour during the day and one drachm of whisky in milk every four hours. On the 5th the pulse was 82 and the temperature 98°. She was given pish pash (rice boiled with meat) twice daily and tea and bread and butter. The whisky and milk were given every three hours. The patient passed flatus. On the 6th the pulse was 80 and the temperature 98·1°. The wound was dressed and looked quite healthy, the dressing being only stained from slight blood oozing. At 7 P.M. the temperature was 100·1°, and at 10 P.M. 100·8°. On the 7th the pulse was 80 and the temperature was 99·1°, and the patient was given fish for dinner and half an ounce of compound liquorice powder at night. On the 8th the pulse was 84 and the temperature 98·2°. The bowels not having acted, she was given an enema consisting of one drachm of glycerine and six drachms of hot water. The bowels acted at 6 P.M. On the 9th the pulse was 80 and the temperature was 98°. The wound was dressed and all the deep and superficial sutures removed. She was ordered chicken. The wound had all healed with the exception of half an inch in the centre, where there was an overlapping edge of skin to which a small pad was applied. On the 10th the pulse was 78 and the temperature 97·8°. On the 11th the pulse was 72 and the temperature 98°. The whisky was omitted and four ounces of port wine daily were ordered. On the 12th the pulse was 76 and the temperature 97·4°, and on the 13th the wound had quite healed. On the 16th an abdominal belt was applied. The patient went on quite well and was discharged from hospital on the 27th.

Remarks by Dr. GALTON.—At the first operation twelve years ago the patient was so collapsed that the necessity for rapidly closing the abdomen did not admit of examination or removal of the remaining ovary. The second operation, though fully as difficult as the first owing to adhesions, was better borne in spite of the patient being seventy years of

[1] THE LANCET, Jan. 21st, 1893.
[2] Boston Medical and Surgical Journal, May 25th, 1893.
[3] Clinical Record, Philadelphia, July, 1893.
[4] Le Progrès Medical, July 16th, 1891.
[5] Olshausen, Krankheiten der Ovarien.
[6] Journal of the British Gynæcological Society, vol. iv.
[7] Ibid., vol. viii. [8] Brit. Med. Jour., Dec. 9th, 1893.
[9] Loc. cit. [10] Brit. Med. Jour., July 14th, 1894.

age. It is interesting to compare the change of the after-treatment of these cases in twelve years. The first operation was followed by abundant administration of opium, but none was given in the second.

Reviews and Notices of Books.

Grundriss einer Klinische Pathologie des Blutes, für Aerzte und Studirende. Von Dr. RUD. VON LIMBECK. Zweite Auflage. Jena: Gustav Fischer. 1896. Preis 6 mk. (*The Clinical Pathology of the Blood.* By Dr. RUD. VON LIMBECK. Second edition. Jena: Gustav Fischer. 1896. Price 6*s.*)

IT speaks well for scientific activity in the more abstruse departments of pathology that a work of this character should have attained to a second edition within a comparatively brief space of time. For it is not so long since the study of the blood in disease was confined within very narrow limits indeed, but now, thanks to a host of patient investigators and the invention of many new instruments of precision, the thorough examination of the blood is, or shortly will become, an important part of clinical investigation. Dr. von Limbeck's treatise, modestly entitled a "Grundriss"—i.e., "outline"—is, we believe, the most exhaustive that has yet been produced on this special subject, and it is already well established as an authoritative work of reference. Opening with chapters upon methods and processes of examination in which no detail is deemed too slight to be unnoticed, the work deals next with the properties and composition of the Blood in Health. Here there is introduced in this edition a chapter on the Coagulation of the Blood by Dr. Ernst Freund. Next follows the discussion of the Morphology of the Blood, first the red corpuscles and then the white corpuscles and "blood-platelets." The subject of Leucocytosis is divided into three sections—I. Physiological: (*a*) leucocytosis of digestion; (*b*) leucocytosis of pregnancy; and (*c*) leucocytosis of the new-born. II. Pathological: (*a*) inflammatory leucocytosis; (*b*) leucocytosis caused by malignant tumours; (*c*) post-hæmorrhagic leucocytosis; and (*d*) agonal or pre-mortal leucocytosis. III. Leucocytosis caused by drugs and other agencies. Of especial interest is the large number of observations upon leucocytosis in inflammatory and septic diseases. The Parasites of the Blood are then described, there being very full accounts of the malarial plasmodia and the spirillum of relapsing fever, filaria and bilharzia being dismissed in a few lines. The fifth and final section of the work is devoted to the application of the preceding studies to clinical observation. The condition of the blood in the various forms of anæmia, primary and secondary, is first fully detailed, and then that of other diseases. The book is thus prepared on a very systematic plan and is of value to the physiologist as well as to the pathologist. Whilst not of a sufficiently general character to be read through as a text-book, it is invaluable as a work of reference, since its pages abound in descriptions of researches made in all quarters upon each section of the subject. Bibliographies are appended to the chapters, and two coloured plates illustrate a few of the more striking conditions described in the text.

Micro-organisms and Disease: An Introduction to the Study of Specific Micro-organisms. By E. KLEIN, M.D., F.R.S., Lecturer on General Anatomy and Physiology in the Medical School of St. Bartholomew's Hospital. New edition, revised, with 201 Illustrations. London: Macmillan and Co., Ltd. New York: Macmillan and Co. 1896. Price 10*s.* 6*d.*

SINCE the third edition of this work appeared the changes that have taken place in the methods of study of bacteriology and in the importance of the part that it plays in connexion with its application to public health and diagnosis and prognosis in disease have been so marked that Dr. Klein's fourth edition may be looked upon as practically a new book. All the chapters have been extensively revised and some of them have been practically re-written, whilst in addition new chapters, some of them of very great interest and importance, have been added in order to bring the book thoroughly up to date. A large number of very good photograms illustrate special points raised, better, perhaps, than has been done in any book of its kind that has appeared. Perhaps the most interesting chapters in the book are those on the Vibrio and Spirillum, especially as Dr. Klein holds views on these organisms which are by no means generally accepted; still, though many will differ from him concerning some of the points raised the observations are interesting and suggestive. Chapters on the Protozoa causing Disease, on Antagonism amongst Bacteria, and on the Relation of Saprophytic to Pathogenic Organisms are all worthy of careful study, both because they are good *résumés* of the work that has been done and because in them are discussed many points of interest which are as yet by no means settled. The remainder of the work has been brought up to date in most respects, and the book in its present form may be confidently recommended to the student of bacteriology; withal, we think that part of the revision is not entirely successful, as some of the best parts of the early chapters—those most useful to the student—have been deleted and nothing has been added to take their place.

Die Otogene Pyämie. Von Dr. HUGO HESSLER, Docent der Ohrenheilkunde an der Universität, Halle-a.-S. Mit 7 Figuren im Texte und 26 Tabellen. Jena: Gustav Fischer. (Otogenic Pyæmia. By Dr. HUGO HESSLER, *Docent* in Otology at the University, Halle-a.-S. With 7 Figures in the Text and 26 Tables. Jena: Gustav Fischer. 1896.)

VERY important work has been done within the last ten years in the recognition and treatment of the cases of pyæmia resulting from disease of the middle ear. British surgeons have taken a very prominent part in this work, and have made several most important contributions to surgical literature, both in the form of monographs and papers to medical journals and medical societies. The volume before us, from the pen of Dr. Hessler of Halle, is the most ambitious attempt that has yet been made to present the whole subject in full detail. With the laborious industry so characteristic of his countrymen he has treated his subject from almost every point of view, and has endeavoured to make his work a complete record of all that is known about otogenic pyæmia and a synopsis of all that has been hitherto published in reference to it. Opening with chapters tracing the historical development of our knowledge of the part played by middle-ear disease in causing pyæmia, and upon the features of pyæmia generally, he then describes in great detail the anatomy of the ear so far as it has any bearing on the disease in question, especially the anatomy of the vessels of the ear and of the meninges. Next follows a full abstract of all the cases that have been published—a chapter that must have occasioned a very great deal of labour. And based upon the material thus collected and set out, the pathology, clinical features, bacteriology, prognosis, diagnosis, and treatment are in turn elaborately discussed. The book consists of 500 pages of closely printed matter and is the work, not of a mere statistician or book-maker, but of an experienced surgeon who is an authority on the subject with which he deals. We have found each section of the work to bear the clearest evidence of great care and thoroughness in its production, and it forms a rich storehouse of accurate information on every part of the subject with which it deals. The table which will

appeal most strongly, perhaps, to our readers is that in which Dr. Hessler sets out the cases of the modern operation for infective thrombosis of the lateral veins. Of twenty-nine cases of metastatic pyæmia as many as twelve were saved by this operation, and of thirty cases operated upon in which there was no evidence of metastasis, as many as twenty-four were saved. This proportion is probably not accurate, as successful cases are certain to be published in greater numbers than the unsuccessful. But even admitting this, the table is a record of thirty-six lives saved, all of which would certainly have succumbed to this disease if left without the aid which surgery afforded. This fact alone makes it imperative that all surgeons should make themselves, as far as possible, familiar with the features of this disease and of the best method of dealing with it. These cases do not come under the care of the aural specialist, but of the general surgeon; and the title of this work must not lead the latter to think it of small interest to him. Dr. Hessler's monograph is too exhaustive and elaborate to appeal to a large circle of readers, but we hope the gist of it may soon be embodied in a more accessible form.

The Mother's Help and Guide to the Domestic Management of Her Children. By P. MURRAY BRAIDWOOD, M.D., F.R.C.S. Edin. Second Edition. London: The Scientific Press, Limited. 1896. Price 2*s.*

MOTHERS and nurses will find in Dr. Braidwood's pages a very large amount of well-selected information on the management of children both in health and sickness. He expresses himself in a clear and easy style, and explains the reasons for his recommendations, but not overloading the book with an excess of medical details which are of only doubtful value to the majority of readers. In order that children may grow up into strong, healthy men and women, attention to food, clothing, and exercise during infancy is indispensable, and Dr. Braidwood's chapters on these three subjects are particularly good.

Galvanism in the Treatment of Neuritis and other Diseases. By CAREY COOMBS, M.D. Lond. Bristol: John Wright and Co. 1896. Price 1*s.*

IN this little work the author describes the usefulness of the continuous galvanic current in various neuralgic, spasmodic, rheumatoid, and other painful conditions, and recommends the more frequent adoption of this method of treatment in general practice. The apparatus which he employs is not troublesome either to use or to keep in order; it consists of sixty small Leclanché cells with connexions so arranged that ten or twenty cells at any part of the battery may be selected at will; undue strain on any particular section is thereby avoided and renewal of the cells has been necessary only twice in the last twenty years. The book is a well-written *résumé* of the elements of electrotherapeutics; it contains several illustrations and notes of fifteen cases in which the treatment was used.

LIBRARY TABLE.

In the Kingdom of the Shah: the Journey of a Medical Man through Persia. By E. TREACHER COLLINS, F.R.C.S. Eng. London: T. Fisher Unwin. 1896. Price 12*s.*—Mr. Treacher Collins was sent for in 1894 to see the Prince Zilli Sultan, the eldest son of the then Shah, who wished for some advice about his eyes. Having landed at Bushire Mr. Collins proceeded to Ispahan, and was fortunately able to reassure his illustrious patient. He was fortunate in one way—he travelled by caravan in the most luxurious style; but we fancy he must have missed some of the charm of Persian travel. However, he did travel "chapar"—i.e., "post"—from Kasvin to Resht. He gives as good an account of the land and its people as can be expected after a stay of only three months in a perfectly new country, and apparently enjoyed himself, as everyone does, or ought to, who goes to that favoured land. No one who has visited Persia will forget the delights of arriving at a post-house, the agonies of going up mud stairs with steps two feet high after having ridden forty miles and suffering consequently from stiffness, "the thin, thoughtful, canting cocks and serious low-church looking hens"—to quote Eothen—which had to be caught and killed for supper, and then the crowning bliss the "kalian," the water-pipe, to follow. Mr. Collins does not say he enjoyed all these, but we hope he did.

JOURNALS AND REVIEWS.

THE July and August numbers of the *Veterinary Journal and Annals of Comparative Pathology*, especially the former, contain a number of interesting articles, and, more important still, very full reports of the proceedings of the Royal College of Veterinary Surgeons in connexion with the professional education and examination of the students at the various colleges. It is evident from these reports that there is at present a great troubling of the waters on this question though there seems to be considerable difference of opinion as to the exact manner in which a higher standard of education and qualification of the veterinary surgeon can be obtained; there seems to be a general consensus of opinion that now that the student of veterinary medicine and surgery has to pass through a curriculum extending over four years endeavours should be made not only to raise the character of the teaching but also extend the scope of the examination. Whatever may be the methods ultimately adopted, nothing but good can come to the profession as a result of this discussion. In the July number Mr. W. D. Simpson contributes a well written and suggestive article on Vivisection which we commend to the attention, not only of veterinary, but of general and medical readers. Just at present, whilst so much attention is being paid to the physiology of nutrition and the relative weights of the various organs of the body, Professor Bradley's observations on the Relation between the Horse's Body Weight and the Weight of the Organs is of interest, as, with the exception of Chauveau's observations, they appear to be more complete than any that have been made, although condensed into a paper a couple of pages in length. Other articles on Tuberculosis in Chickens; on Poisonous Plants of the Heath Family; on Fracture of the Pelvic Vertebræ, for a time, without Displacement; on Two Cases of Persistent Hymen; and on Fracture of the Scapula complete this number, whilst in the August number there are articles on An Outbreak of Anthrax; on Antisepsis in Parturition; on Redwater or Cattle Tick Plague; and on Frozen Meat. A number of records of clinical and pathological cases complete this number.

Appletons' Popular Science Monthly.—Amongst no less than fourteen papers in the August number of this always readable monthly appear two articles of historical as well as scientific interest. Of these two perhaps the paper by Mr Lewis R. Harley, Ph.D., on Science at the University of Pennsylvania is first in importance, as it is decidedly the more attractive reading. The article is fully illustrated, as is also the one on the Early Years of the American Association by Professor Hale, chiefly with portraits of past presidents. Judging from the pictures of the various sectional rooms of the University of Pennsylvania and especially of the large and imposing laboratory of hygiene, America is decidedly more alive to the requirements of original research than we are. An amusing article appears in the "Editor's Table" on the Devil in the Public Schools, which is based on a story of a panic that occurred in one of the public schools in consequence of a statement made by a little girl that she had seen the devil coming into the building. The editor thinks that teachers should be made to understand "that the devil has had his day—he had a good thousand years of human history pretty

much to himself—and there is really no impropriety in trying to keep him out of the schools of modern New York."

The *Journal of State Medicine* for July contains the first of the Harben Lectures delivered by Dr. Klein before the British Institute of Public Health. It deals chiefly with the means of discriminating between the typhoid bacillus and the bacillus coli. This paper is succeeded by an inquiry into the efficiency of the steam disinfectors in use in this country by Dr. W. R. Smith, which is not concluded. In another paper, Dr. F. J. Allan puts forward a plea for the use of sea-water for municipal purposes, a question which we have favourably considered in our columns on more than one occasion.

The Edinburgh Medical Journal.—Dr. James Carmichael publishes a paper with the somewhat enigmatical title of "The Indigestion of Breast Babies." However, the paper is a good one, dealing with the subject of the indigestion from which infants suckled by their mothers or other women suffer. Dr. Coromilas, of Calamata, Greece, has a communication upon the rapid artificial dilatation of the perineum during labour.

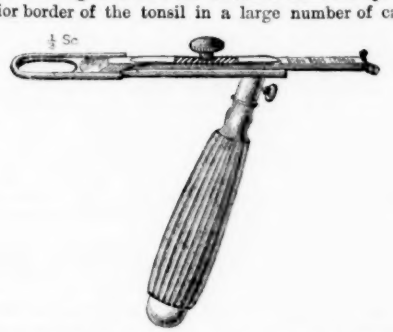
In the *Birmingham Medical Review* Mr. T. L. Webb reports an interesting case of carcinoma of the large intestine in which portions of the growth were passed per anum. No post-mortem examination was permitted, but the growth was diagnosed as being in the sigmoid flexure. Dr. Swale Vincent has a short paper upon the Physiology of the Suprarenal Capsules.

The Dublin Journal of Medical Science.—Sir Charles Cameron reports an outbreak of enteric fever, probably due to infected milk. The proprietor of the dairy who neglected to notify the existence of infectious disease in his premises was only fined £1. Dr. John Knott continues his interesting paper on the Medicine and Surgery of the Homeric Poems, discussing in this instalment wine and drunkenness.

New Inventions.

A MODIFIED TONSILLOTOME.

MESSRS. DOWN BROS. have made for me a tonsillotome which, while somewhat resembling Mackenzie's, differs from it in the following particulars: 1. The blade is considerably shorter. Having measured the distance from the lips to the posterior border of the tonsil in a large number of cases, I found that this reduction could be made and yet the most deeply placed tonsil reached with ease. 2. The handle blocks into the blade instead of screwing in; it, therefore, cannot possibly rotate as sometimes happens with the screw at the critical moment. 3. The handle makes an acute instead of an obtuse angle with the blade, whereby the operator's thumb has much greater power in thrusting home the latter. 4. It is entirely of metal. The instrument seems to do its work satisfactorily.



W. H. KELSON, M.D. Lond., F.R.C.S. Eng.

Queen-street, Cheapside, E.C., July, 1896.

THE THIRD

INTERNATIONAL CONGRESS OF DERMATOLOGY:

LONDON, AUGUST, 1896.

ON Monday night, Aug. 3rd, an informal reception of their foreign colleagues by the British members of the Third International Congress of Dermatology was held at the International Hall, Café Monico.

Tuesday evening, Aug. 4th, was devoted to private hospitality and to the visiting of the theatres and other places of amusement, with which the foreign members were extremely pleased.

On Wednesday, Aug. 5th, the Lord Mayor gave a reception at the Mansion House, which was largely attended and much appreciated by the foreign visitors, some of whom expressed their delight at finding that at least one British official—namely, his lordship—was in the habit of wearing his uniform and robes of office.

On Thursday, Aug. 6th, Dr. Stephen Mackenzie gave a reception which was much appreciated by a large number of the visitors.

The President, Mr. Jonathan Hutchinson, kept open house for breakfast on each morning of the week, and invited the members of the Congress to his country house at Haslemere on Saturday afternoon, where the foreign visitors had an opportunity of seeing one of the most beautiful of our English counties.

On Friday, Aug. 7th, the members of the Congress assembled at a banquet at the Hôtel Cecil. The President, Mr. Hutchinson, occupied the chair, and after the usual loyal toasts proposed that of "International Dermatology" in a few appropriate remarks. This was responded to by Professor Kaposi (Vienna), Dr Besnier (Paris), Professor Lassar (Berlin), Dr. Unna (Hamburg), Professor Schwimmer (Budapest), Professor Tarnowski (St. Petersburg), Professor J. C. White (Boston), Professor Campana (Rome), Professor Haslund (Copenhagen), Professor Bœck (Christiania), Zambaco Pasha (Constantinople), Professor Petrini de Galatz (Bucharest), Dr. Dubois-Havenith (Brussels), and Dr. Sederholm (Stockholm).

Amongst others present were Professor Walter Smith (Dublin), Dr. Dubreuilh (Brussels), Dr. O. Rosenthal (Berlin), Professor Neisser (Breslau), Dr. Feulard (Paris), Dr. Sabouraud (Paris), Professor Rosenbach (Göttingen), Dr. Brandis (Aix la Chappelle), Dr. Veiel (Stuttgart), Dr. Pye-Smith (London), Dr. Bulkley (New York), Dr. Hallopeau (Paris), Dr. Allan Jamieson (Edinburgh), Professor Janowski (Prague), Professor Stoukovenkoff (Kieff), Professor Petersen (St. Petersburg), Dr. Bronson (New York), Dr. Nevins Hyde (Chicago), Dr. Duffey (Dublin), Dr. Fitzgibbon (Dublin), Professor Wolff (Heidelberg), Mr. Buxton Shillitoe (London), Dr. Jullien (Paris), Mr. Malcolm Morris (London), Dr. Galloway (secretary of the Museum and Demonstration Committee), Mr. Ernest Lane (secretary of the Syphilis Section), Dr. Colcott Fox (chairman of the Museum Committee), Dr. Radcliffe Crocker (chairman of the Reception Committee), and Dr. J. J. Pringle (general secretary).

Upwards of 370 names of British and foreign members were registered as attending the Congress, and though some minor points might, perhaps, have been improved it was

universally admitted that the meeting was a most successful one and that great credit was due to the administration for the excellent arrangements made. The foreign visitors were particularly pleased with the excellence of the organisation and the profusion of the hospitality.

SECTION OF DERMATOLOGY.

WEDNESDAY, AUG. 5TH.

Discussion on Keratosis.

Dr. UNNA (Hamburg) read a paper on the Etiology and Varieties of Keratosis, giving his exhaustive researches into the process of keratinisation, a process which takes place normally in the preparation of the epidermal cells as they approach the surface of the skin. He viewed the subject from a physiological and pathological standpoint, comparing the two. Pathologically the process takes place in excess in the formation of callosities, when the cells become heaped up into solid masses; in psoriasis, when they crumble away in silver flakes; and in ichthyosis, when they form flakes cracked at intervals. A large number of beautiful microscopic specimens of these affections were shown, some of the specimens having been previously digested by pepsin and hydrochloric acid and some not digested.

In the discussion which followed Dr. H. G. BROOKE (Manchester), Dr. W. DUBREUILH (Bordeaux), and Dr. AUDRY (Toulouse) took part.

Sarcoma Cutis.

Professor SCHWIMMER (Budapest) contributed a paper (in English) on Sarcoma Cutis illustrated by drawings, in which he advocated the use of arsenic, which, according to his experience, cured the disease.

Dr. COLCOTT FOX (London) made a few remarks on a case of primary Sarcoma Cutis of two years' duration which he had shown that afternoon, of which a microscopic examination had been made.

Dr. J. J. PRINGLE (London) also made reference to a case under his care.

Dr. LASSAR (Berlin), who spoke in English, thought that leprosy often ended in this way.

Professor SCHWIMMER, in reply, doubted if cases of leprosy ever terminated in sarcoma, and once more he emphasised the value of arsenic in gradually increasing doses in the treatment of the disease.

Various Papers.

The following papers were also brought forward:—

Professor RIEHL (Leipzig): Epithelioma and Endothelioma Cutis.

Dr. GAUCHER (Paris): The Treatment of Cutaneous Epithelioma.

Dr. L. WICKHAM (Paris): A Case of Rhinoscleroma.

Dr. ZEFERINO FALCAO (Lisbon): Contribution to the Study of Xeroderma Pigmentosum.

Dr. DARIER (Paris): Pseudo-xanthoma.

Dr. O. ROSENTHAL (Berlin): The Treatment of Skin Diseases by Hot Water.

Dr. P. G. UNNA (Hamburg): A New Form of Impermeable Medicated Plaster.

Dr. EDWARD SCHIFF (Vienna): A New Vehicle for the Application of Remedies to the Skin.

Dr. WALSH (London): The Action of Certain Internal Remedies on the Skin.

M. NUMA RAT (St. Kitts): Framboesia or Yaws.

Mr. WATTS (Antigua): Framboesia.

THURSDAY, AUG. 6TH.

Connexion of Tuberculosis with Diseases of the Skin other than Lupus Vulgaris.

Dr. NEVINS HYDE (Chicago) in his paper formulated the following propositions, supported by arguments and facts. It may now be accepted that primary and secondary infection of the skin with tubercle bacilli may take place, and auto-infection of the skin may also occur. The diversity between the several clinical forms of cutaneous tuberculosis may be explained by the quantity of micro-organisms present in any given case; by differences in the tissues on which the germs are implanted; and by accidents of exposure of the infected region. The various skin lesions (other than lupus vulgaris) due to tuberculosis may be classified as follows:—Those in which the bacillus tuberculosis has been demonstrated—(1) verruca necrogenica; (2) tuberculosis verrucosa cutis (Riehl and Paltauf); (3) tuberculosis papillomatosa cutis (Morrow's type); (4) fibromatosis tuberculosa cutis (Riehl); (5) elephantiasis tuberculosa cutis; (6) tuberculosis cutis ulcerativa; (7) tuberculosis gummatosa ulcerativa (cutaneous scrofuloderm); (8) lymphangitis tuberculosa cutanea (Besnier); (9) tuberculosis cutis serpiginosa ulcerativa; (10) tuberculosis cutis fungosa; and (11) tuberculosis nodosa atrophica (lupoid form). Skin lesions in which the bacillus tuberculosis has not always been demonstrated, but in which there is every reason to believe that it will be in the future—(1) lupus erythematosus, concerning which Dr. Hyde has come to the conclusions (*a*) that it does not originate from, nor is it the source of, tuberculous infection; (*b*) it occurs in non-tuberculous subjects as a result of causes as yet undetermined; and (*c*) it also occurs in tuberculous subjects and then there exists a relation between the two; (2) erythema induratum scrofulosorum (Bazin's disease); (3) lichen scrofulosorum; (4) tuberculosis suppurativa et bullosa acuta (Hallopeau); (5) a group of acneiform, sycosiform, and follicular disorders in which it is possible that tuberculosis may be responsible for some of the results; (6) keloid; and (7) ulcus molle complicated with tuberculosis. In the last group the author names—(1) a few eczematoid disorders (neuro-dermatites); (2) erythema pernio; (3) exceptional forms of erythema multiforme; (4) some of the melanodermata; (5) purpura of the cachectic; and (6) a few of the drug dermatoses.

Dr. HALLOPEAU (Paris) insisted on the necessity of early recognition of tuberculous lesions of the skin. This diagnosis could be effected by (1) the possibility of transmitting tuberculosis from such lesions by a series of inoculations of the morbid matter; (2) the presence of the bacillus tuberculosis in the tissues of the lesions; (3) the production of similar eruptions, such as lichen scrofulosorum, under the influence of tuberculin; and (4) the production of the symptoms of a reaction and visible changes in the skin by the hypodermic injection of tuberculin. But none of these conditions can be regarded as a *sine quâ non*. The types of elementary skin lesions which have up to the present been connected with tuberculosis are: (1) sclerotic and warty tuberculosis, where the process involves the papillary body; (2) the anatomical tubercle; (3) tuberculous gummata; (4) tuberculous tumours resembling mycosis fungoides; (5) tuberculous ulcerations; (6) erythema (lupus erythematosus); and (7) other superficial forms of tuberculosis of the skin, such as lichen scrofulosorum, suppurative folliculitis, and the like. The multiplicity of these various manifestations is explained by the different liability of the various constituent elements of the skin, the state of the health, and the age of the patients attacked.

Dr. RADCLIFFE CROCKER (London), in his communication laid stress on the fact that, while there are a certain number of diseases of the skin directly due to the presence of the bacillus tuberculosis, there are many other skin diseases which, though they are not due to this organism, find a favourable soil in those persons who seem to be predisposed to invasion by the bacillus. Examples of such a condition are to be found in persons who present the phenomena of easily excited bone disease, glandular enlargement, &c.—clinical conditions which come under the head of the "scrofulous diathesis." Cases were narrated and drawings shown in illustration of this. It was advisable to retain the word scrofuloderma for application to some conditions of the skin which were attended by involvement of glands, extensive suppuration, and ulceration of the skin.

Professor PETRINI DE GALATZ (Bucharest), Professor PELLIZZARI, and Professor JACOBI (Freiburg) continued the discussion.

Dr. JADASSOHN (Breslau) read a paper on Lichen Scrofulosorum.

Professor CAMPANA (Rome) read a paper on the Mode o Action of Tuberculin.

Dr. LOUIS WICKHAM (Paris) read a paper on the Value of Multiple Scarification in Erythematous Lupus.

Dr. AUDRY (Toulouse) read a paper on Eczema Elephantiasa in a Tuberculous Subject.

Ringworm and the Trichophytons.

Dr. SABOURAUD (Paris) opened the subject with a lucid exposition of his extensive researches. He commenced by paying a high tribute to the researches of Grüby conducted

fifty-three years ago, and which had forestalled many of the discoveries which he (Dr. Sabouraud) had made. His description was divided into two parts, the first dealing with the trichophytons (with large spores), and the second with the microsporon Audouini (with small spores), which, it should be remembered for a proper understanding of what follows, Dr. Sabouraud holds to be totally distinct.

I. A trichophyton may best be defined by its effects—i.e., it gives rise on the skin of man to a circinate lesion containing only two cryptogamic forms—a filament (the mycelium) and a mycelial spore (endospore). In the lesion it excites it never assumes the form of external sporulation, but in an artificial culture it always does so. It is easily cultivable at low temperatures (from 15° to 20° C.), and in artificial cultures assimilates hydrocarbons, especially sugar. All trichophytons have these characteristic. The technique of their culture was then described, and the fact that the results were always constant emphasised. Intradermic inoculations were made in guinea-pigs. After three years' experimentation the conclusions arrived at are that there is a very large number of fungi which are capable of producing "ringworm" in the human being, and that they all belong to the class sporotrichum of Link and Saccardo. Trichophytons may be divided into trichophyton endothrix, which form by far the largest number of cases of ringworm of the scalp, which invade the hair shaft, are never found in animals (domestic or other), and never attack the beard, and trichophyton ectothrix, which do not invade the hair shaft, but may be found on the surface of the skin. The latter are rare in man, but common in animals. Certain mixed forms (endo-ectothrix) exist in Paris which penetrate the hair root for a certain distance, and many, if not all, of these have an animal origin. When these are met with in man an animal source must always be sought—horses, cats, dogs, calves, fowls, &c. In trichophyton of the beard trichophyton endothrix is never found, but always endo-ectothrix or pure ectothrix. Similarly trichophyton of the nails is always due to the same species, never to endothrix. It follows that both of these are, or may be, of animal origin. The best means of sub-division is by the character of the cultures, thus—(1) crateriform cultures, three species known; (2) accuminate cultures, three species known; and (3) white powdery cultures, six species known. It is highly probable that trichophytons can have a separate saprophytic existence because, amongst other reasons, cultures may be obtained from organic materials. As regards the pyogenic properties of these organisms, some are always attended by pus formation (as the white cultured trichophytons from the cat), some are nearly always (trichophytons from the horse), and some never, suppurative (endothrix and endo-ectothrix with accuminate culture). This explains the variable presence of suppurative folliculitis and kerion. The spores of all trichophytons are formed by a breaking up of the mycelial elements.

II. The nosography of the scurfy patch (*taigne tondante*) of Grüby must be studied quite apart from that of the trichophyton, as a distinct morbid entity, characterised clinically as a collection of patches consisting of fine, dry, grey, adherent desquamation affecting the heads of children. The parasite in this affection is the microsporon audouini (Grüby, 1843). The hairs, about six or seven millimetres long, are curved, and when pulled out break off about a millimetre below the skin. It is accompanied by fugitive inoculations on the skin around. It is extremely contagious in children. It is extremely rebellious, lasting for five, six, or more years, terminating spontaneously, if untreated, at puberty without, as a rule, baldness following. A microscopic examination of the hairs shows them to be surrounded by a layer of small spores, not arranged in chains, never entering the hair. In the interior of the hair there exists a series of thick mycelial threads arranged in parallel lines, divided at long intervals, giving off at an acute angle very fine branches which make their way to the surface bearing a lot of spores at their extremities which surround the outside of the hair. The cultures of this microbe differ completely from those of the trichophytons. The disease is very frequent in England and France, but it seems not to exist in Italy, Germany, or Hungary. Only one species of this microbe affects man. Another species affects the horse, which is possibly contagious to man. In conclusion Dr. Sabouraud referred to a variety of favus which gives rise to trichophytoid lesions.

Professor ROSENBACH (Göttingen) contributed a paper confirming in general terms Dr. Sabouraud's researches, but as regards those relating to the transmission of certain trichophytons from animals some caution must, he thought, be exercised before adopting them.

Mr. MALCOLM MORRIS (London) read a paper embodying the results of his researches on the Ringworm Fungi. He gave a lantern-slide demonstration of a series of microscopic preparations illustrating the fungi found in the cases and showed cultures of them made on agar-maltose. The hairs which supplied the material for examination were taken from the scalps of 126 children. In 116 of these the fungus was small spored, in the remainder large spored. Attention was called to the great preponderance of the former variety (92 per cent.) as compared with the proportion (60 per cent.) given for France by Dr. Sabouraud. On the other hand it might be inferred that the large-spored parasite was comparatively rare in this country; it was suggested, however, that this might be because the affection which it produced was easily overlooked. Mr. Morris showed from measurements made from his specimens that the difference in the size of the spores of the two varieties of fungus was not sufficiently great to constitute a differentiating feature, this was rather to be found in the arrangement of the spores and their mode of growth on the hair. The chief difference in the cultures of the fungi was in the colour, the small-spored being white and the large-spored being brownish-red. He considered that the classification of large-spored fungi into an "endothrix" and an "ectothrix" variety was unwarranted, as being based only on an accident of position. He showed cause for believing Dr. Sabouraud's views, that the small-spored fungus only attacks the scalp, to be erroneous, but he believed that mixing of breeds sometimes occurred in trichophytic (large-spored) ringworm. He also stated that in his experience the parasite in cases of kerion is small-spored, not large-spored, as taught by Dr. Sabouraud. His conclusion was that there were only two varieties of ringworm fungus which concerned clinicians: one small-spored, causing the obstinate form of ringworm which occurred epidemically in schools; and the other large-spored, which was responsible for the more tractable forms of tinea tonsurans of the scalp and probably most other forms of ringworm.

Mr. H. G. ADAMSON (London) read a paper on the same subject, recording his results in the artificial cultivation of the various forms, and confirming the greater frequency in London of the microsporon Audouini (95 per cent.) as compared with the trichophytons (5 per cent. of 263 cases of "ringworm").

The discussion was continued by Dr. UNNA (Hamburg), Dr. COLCOTT FOX (London), Dr. LESLIE ROBERTS (Liverpool), Dr. WICKHAM (Paris), and Dr. VON SEHLEN (Hanover).

FRIDAY, AUG. 7TH.

The Nature and Relations of the Erythema Multiforme Group.

Dr. TH. VEIEL (Stuttgart) opened this discussion with a paper, in which he came to the conclusion that Erythema Exudativum Multiforme, as described by Hebra, is a well characterised and independent infectious disease, which is to be distinguished from the erythemata accompanying other infectious diseases in spite of a morphological similarity. It is not identical with Erythema Nodosum and is independent of gout and rheumatism. It cannot be considered to be an angioneurosis, but is an inflammatory process in the skin set up by the local irritation of an infective matter.

Dr. STEPHEN MACKENZIE (London) read a valuable paper detailing a clinical investigation into the Etiology of the Erythema Multiforme Group and giving an analysis of 167 cases with this object, which showed that the most frequent variety is erythema nodosum (115 cases), the others in order being erythema multiforme (33 cases), erythema marginatum (6 cases), erythema papulatum (5 cases), erythema fugax (5 cases), and erythema tuberculatum (3 cases). Reasons were given for including erythema fugax and excluding purpura rheumatica (Schönlein's peliosis rheumatica), which Dr. Mackenzie regards as a disease distinct from erythema multiforme. The marked incidence of the disease on the female sex (4 or 5 to 1) and in the second and third decades was referred to. As regards erythema nodosum, 22 per cent. showed distinct evidences of articular rheumatism, and taking all varieties together some evidence of rheumatism was obtainable in quite 50 per cent., and the association of the disease with rheumatism is confirmed by the age and sex incidence.

Papers were read by:

Dr. CORLETT (Cleveland, U.S.A.): On Dermatitis Hiemalis with a consideration of its Pathological Anatomy.

Dr. MENEAU (La Bourboule): On Chilblains in the Aged.

Dr. BARBE (Paris): On the Pathogenesis of Pellagrous Erythema.

Dr. PHILLIPSON (Palermo): Clinical and Anatomical Observations on a case of Pemphigus Vegetans.

Professor MIBELLI (Parma): Contribution to the Study of Hydroa Vacciniforme of Bazin.

Dr. TOROK (Budapest): On Pemphigus Vegetans; the results of Clinical, Anatomical, and Bacteriological Researches.

Professor PETRINI DE GALATZ (Bucharest): Histological and Bacteriological Study of Generalised Exfoliative Dermatitis.

Dr. NATALI AMICI (Rome): On a Special Method for the Local Treatment of Erysipelas.

Dr. P. G. UNNA (Hamburg): On Impetigo.

Dr. SABOURAUD (Paris): On Alopecia Areata.

Dr. BLASCHKO (Berlin): On an Experimental Investigation into Alopecia Areata.

Dr. PERRIN (Marseilles): On the Contagiousness of Seborrhœic Eczema in the Inguinal Folds.

Dr. GIARROCHI (Rome): Observations based on 500 cases of Alopæcia studied from the point of view of the laws which regulate the Distribution and the Topographical Succession of the Bald Patches (with illustrations).

Dr. VAN HOORN (Amsterdam): The Micro-organisms of Seborrhœa.

Dr. BULKLEY (New York): The Restriction of Meat in the Treatment of Psoriasis.

Dr. MAPOTHER (London): Mercurialisation in Psoriasis.

Dr. BOUFFÉ (Paris): Note on the Favourable Results obtained by means of Injections of Orchitine in the Treatment of Psoriasis and Leprosy.

SATURDAY, AUG. 8TH.

Papers were read by:—

Professor GÉMY and Dr. VINCENT (Algiers), communicated by Dr. BESNIER: On a Rare Case of Madura Foot.

Professor PETRINI DE GALATZ (Bucharest): On a New Variety of Acne (Acne Rubra Seborrhœica).

Professor CAMPANA (Rome): Leprosy in Relation to the State.

Professor PETERSEN (St. Petersburg): On Colonial Leprosy.

Professor NEUMANN (Vienna): Statistics as to the Local Prevalence of Leprosy, and Recommendations for International Rules as to Preventing its Extension.

Mr. NUMA RAT (St. Kitts): Leprosy in St. Kitts.

Dr. DUBREUILH and Dr. AUCHÉ (Bordeaux): On Sudoriparous Fatty Cysts.

Dr. FRECHÉ on Onychorrhexis.

Dr. BLASCHKO (Berlin): On Leprosy in Germany.

Dr. PERRIN (Bordeaux): Note on the Leucoplasies.

Dr. SAUCHER: On a case of Neuropathic Solid Œdema of the Upper Limb.

Mr. M. MORRIS and Dr. GALLOWAY: On a case showing the Development of Horny Cysts in the Skin after Injury.

SECTION OF SYPHILIS.

THURSDAY, AUG. 6TH.

The Duration of the Period of the Contagion of Syphilis.

Mr. JONATHAN HUTCHINSON (London) opened a discussion on the above subject. He said it was universally admitted that primary and secondary manifestations of syphilis were contagious. No doubt cases are met with where contagion has occurred very long after the primary sore, but these are exceptions, and Mr. Hutchinson considered that contagiousness had generally ceased by the end of the first year, and that it was very exceptional indeed for it to continue more than two years. He had always allowed patients to marry after two years, and he could only remember two cases where the children of such marriages had shown any signs of syphilis. He had seen cases where the power of transmitting syphilis had lasted longer. In one case a man who had never had syphilis had brought three of his children in succession to Mr. Hutchinson, and they were all suffering from congenital syphilis derived from the wife; later the husband contracted syphilis from kissing his own child. In a large majority of the cases it is only the eldest child who suffers, but occasionally more. In all the cases of vaccino-syphilis which have been recorded the vaccine has been taken from children under eight months, never from children over a year old. This fact seems to prove that a case of hereditary syphilis ceases to be infective by the end of the first year.

Professor CAMPANA (Rome) did not think that it was possible to fix with certainty the limit of the duration of the contagiousness of syphilis. Undoubtedly some manifestations of syphilis were not infective, such as the gumma, and they might say that those lesions which tended to undergo caseation were not capable of transmitting the disease; but should such a tertiary manifestation occur before the secondary stage has come to an end even a gumma may prove infective. Probably during the whole of the time that the disease is hereditarily transmissible the disease is contagious. If anti-syphilitic treatment has been properly carried out the disease and its results have probably disappeared by the end of the third year.

Professor LASSAR (Berlin) said that general statements with regard to syphilis have often very little meaning. The contagiousness of syphilis persists as long as any syphilitic signs appear, but the intensity of the contagiousness diminishes as time goes on. The localisation of the tertiary manifestations is probably a great element in preventing infection from them, and that they are incapable of communicating the disease has by no means been proved.

Dr. H. FEULARD (Paris) considered it certain that in different persons the length of the contagiousness of syphilis varied greatly. For three or four years from the primary infection syphilitic manifestations appear and recur from time to time; during the whole of this period there was risk of contagion, and therefore during this time patients should not be allowed to marry. Contagiousness in rare cases may persist still longer—for five, ten, or fifteen years—and in one case even twenty years after the primary infection a case had transmitted the disease. Local irritation seemed to be a cause of eruption, leading to late transmissions. Thus the use of tobacco and in children dentition have been met with as exciting causes of these late eruptions. Treatment seems to have little influence on the duration of contagiousness of syphilis.

Dr. TARNOVSKY (St. Petersburg) said he had seen many cases in which contagiousness had lasted seven or eight years and one case had led to infection after fifteen years.

Dr. BLASCHKO (Berlin) said the question had its theoretical and its practical side. Theoretically a case of syphilis was infectious as long as the bacillus of syphilis was present; practically infection rarely occurred after three or four years, though in one case he had seen it after twelve years.

Dr. SCHWIMMER (Budapest), Dr. DRYSDALE (London), Dr. FITZGIBBON (Dublin), Dr. BALZES, Dr. JULLIEN, Dr. VIENNOIS, and several others spoke.

FRIDAY, AUG. 7TH.

Malignant Syphilis.

A discussion on this subject was opened by Professor HASLUND (Copenhagen), who began by saying that the term malignant syphilis had been somewhat loosely used, but he would apply it to those cases in which extensive ulceration appeared not long after infection. The name should never be applied to cases in which there was widespread tertiary ulceration; severe symptoms might be present in these cases, but they were not cases of malignant syphilis. So far as the primary sore is concerned there is very little to note, and certainly extra-genital sores are not specially prone to be followed by it. Professor Haslund has never seen it occur later than the first year after infection. The prognosis is comparatively favourable, and the disease, even without treatment, tends to a spontaneous cure. Of the cases under his care occurring in males more than two-thirds lasted less than two months. As to the frequency of malignant syphilis, among 8691 cases of syphilis treated in the Copenhagen Municipal Hospital during fourteen years malignant syphilis has been observed thirty-nine times, and with equal frequency in men and women. It is difficult to ascribe it to any particular cause. It is certainly not in the virus, as cases of malignant syphilis do not give rise to malignant syphilis. It has been attributed to a general weakness on the part of the patients, but it has been observed in those who are otherwise strong. Professor Haslund is inclined to think that it is liable to occur in families where the ancestors have been but little affected with syphilis, so that there is little power of resistance

against the disease. As to treatment, mercury should not be given until the temperature is normal, and the patient should have tonics and general hygienic treatment.

Professor NEISSER (Breslau) said that the characteristics of malignant syphilis were the severity of the general symptoms and the great tendency to the formation of large pustules and extensive ulcers; these appear early. The ulcers cannot be gummatous in origin, for the ulceration is not at all serpiginous in form, and treatment with iodides has but little influence on the course of the disease. The cause is in all probability a special predisposition to the disease on the part of the patient and it is not due to the excessive administration of mercury. Though cocci of various forms, especially staphylococci, are to be found in the ulcers, yet they are to be looked upon as the result of a secondary infection. Malignant syphilis may appear both in the acquired and in the inherited forms. The prognosis is good, but ordinary anti-syphilitic treatment is of very little value. General tonic treatment is that which is followed by the best results.

Professor BENJAMIN TARNOVSKY (St. Petersburg) said that an attack of syphilis was liable to become exceedingly severe if at the same time that the body became infected by the syphilitic virus it was also infected by pyogenic organisms; thus, when staphylococcus pyogenes aureus and albus (accompanied sometimes by a special form of bacillus) find in certain organisms a suitable soil they tend to render the primary sore phagedenic and to set up suppuration in the lymphatic glands, and to cause pyo-syphilitic lesions on the surface of the body. Pyogenic organisms may infect a patient suffering from syphilis during any portion of the secondary stage, but only rarely during the tertiary period. Appropriate treatment can cause the re-absorption of the pyo-syphilitic eruption. Anything depressing the general health tends to assist the infection of pyogenic organisms, such as alcoholism, diabetes, acute fevers, &c. Mercurial treatment commenced at an early stage of the disease, and systematically carried on for two to three years is of great value in dealing with severe forms of syphilis. In the centre and north of Russia the intra-muscular injection of preparations of mercury seems to have the most rapid effect, and in this way may be used calomel, perchloride of mercury, the yellow oxide, and also the salicylate of mercury. Of all these the last is the least painful, and therefore the most useful.

Professor SCHWIMMER (Budapest) thought that malignant syphilis might develop in either the secondary or tertiary stage. The prognosis was not particularly good. Mercury and potassium iodide are of very little value. Tonics were of the greatest value. In one case he had tried, merely as an experiment, spermin; after the fifth injection the ulcers had improved and after the twentieth injection cicatrisation began.

The debate was continued by Dr. DRYSDALE (London), Dr. LOEWENHARDT (Breslau), Dr. MÜLLER, Dr. FEULARD, and several other members.

Dr. GÜNTZ (Dresden) read a paper on Malignant Syphilis and its Treatment, in which he mentioned the good results he had obtained by the use of small doses of bichromate of potassium.

Various Papers.

In the afternoon Dr. JUSTUS (Budapest) read a paper on the Blood Changes in Syphilis. He showed that syphilis diminished the amount of hæmoglobin present, and that the first effect of mercury (whether given hypodermically or by inunction) was to reduce still further the hæmoglobin, but that later doses increased rapidly the amount of hæmoglobin in the blood.

Dr. JULLIEN (Paris) communicated a paper on Gonorrhœal Ulceration.

Dr. ERNST FEIBES (Aix-la-Chapelle) read a paper on the Prognosis of Extra-genital Syphilitic Infection. He contended that the prognosis was in no way different from that of cases where the primary sore was on the genitals; sometimes the chancre was not diagnosed early, and so the disease had progressed further than usual before treatment was commenced. He had seen forty-five cases.

Dr. ASSAKY (Paris) read a paper on the Treatment of Secondary Syphilis by the "Iodohydrate of the Iodate of Quinine," a compound containing 75 per cent. of iodine. His results had been very good.

SATURDAY, AUG. 8TH.

Various Papers.

Dr. BALZER (Paris) read a paper on the Treatment of Phagedenic Chancres. He had had very good results with irrigation with solutions (1 in 1000) of permanganate of potassium, at a temperature of 40° C.

Dr. FEIBES (Aix-la-Chapelle) read a paper on Prolonged Mercurial Treatment. He said that the men who acted as "rubbers" in the inunction treatment of syphilis absorbed a great deal of mercury; its presence could be demonstrated in the urine, yet they remained in good health. One man had been a "rubber" for thirty-seven years. These facts went to prove that a mercurial treatment might be continued for years without doing harm, but it was only true of treatment by inunction.

Dr. BRANDIS spoke of the good health enjoyed by mecurial rubbers.

EXHIBITION OF CASES.

Cases were exhibited each day at 9 A.M. and 2 P.M. which were in illustration, as far as possible, of the subject selected for discussion on that day. It will only be possible to make brief reference to some of the more important.

WEDNESDAY, AUG. 5TH.

Prurigo.—The Lichenous (or Papular) Group.—Keratosis-Angiokeratoma.—Ichthyosis.

Cases of prurigo were exhibited by Dr. COLCOTT FOX, Dr. ABRAHAM, and Dr. EDDOWES, and it was interesting to learn from the remarks of Dr. KAPOSI, Dr. SCHWIMMER, and others that the Prurigo of Hebra is simply a severe, persistent, and intractable form of what we know in England as lichen infantalis *vel* urticatus of childhood, from which it differs only in the lesion being chiefly papular, very extensive, accompanied by enlargement of the lymphatic glands, and by its being very intractable.—A case of Prurigo in a woman aged thirty-seven years, in whom the urticarial element was very marked, was shown by Dr. SAVILL as illustrating the efficacy of large doses of calcium chloride in this malady.

Many cases of Lichen Urticatus of childhood were shown and interested the foreign visitors very much, as in some of their countries the disease seems to be less prevalent than in England.—Dr. COHEN showed a case of Lichen Veruccosus (lichen planus hypertrophicus) of both legs in a man aged fifty years, of three years' duration, which had improved under treatment by arsenic.—Dr. PAYNE showed a case of the same affection in a woman aged fifty-four years, in whom the disease was situated on the calf of the leg, and who had improved greatly under treatment by arsenic internally and by the application of wood-tar externally.—Dr. SAVILL exhibited a case of Lichen Planus, which had also improved under arsenic—the sovereign internal remedy, it would seem, in most forms of lichen. The patient was a man aged fifty-four years, and the case was interesting as presenting on the same limb patches of lichen planus and the lesion of lichen ruber accuminatus (Hebra)—a fact which somewhat tends to show that these are but varieties of the same disease.

Many cases of what is called in England Ichthyosis Hystrix (*vel* ichthyosis sebacea) were exhibited and discussion with the foreign visitors elicited the identity of this disease with that known in Germany as Nævus Papillaris Neuroticus (*vel* Nævus Verrucocus linearis).—Dr. FOX showed two cases of this disease, one a boy aged eight years, and the other a girl aged fifteen years, the latter of whom presented the interesting feature that the eruption was distributed on the left side of the face and the right side of the body like a crossed hemiplegia. The disease is characterised by linear aggregations of warty growths which are of congenital origin, though they may not be observed until after the first or second year of life. It is sometimes erroneously supposed that the distribution corresponds with that of the sensory nerves, but it may be better explained by the developmental twisting of the embryo, or by Head's sensorial areas. Dr. MORGAN DOCKRELL'S case of this disease was interesting as being confined to the face, involving the mucous membranes, and as having been improved by operation with the thermo-cautery.

Much interest was excited by a case brought from Holland by Dr. SILHORST (The Hague), which he described as Nævus Acneiformis Universalis with Scrofuloderma, in a woman aged twenty-four years. It consisted in a curious follicular hyperkeratosis, followed by scarring, distributed on the left side of the trunk and left arm. It was interspersed with crimson thickenings of the skin which had undergone suppuration after the manner of sebaceous lupus, and the general opinion expressed was that the case was primarily one of ichthyosis hystrix (as evidenced by the streaky distribution of the warty growths and the congenital history of the malady), which had subsequently taken on a lupoid ulceration.

Another unique case was exhibited by Mr. MALCOLM MORRIS, described by him as Colloid Degeneration or Atheroma of the Skin. The patient was a tall lad aged

fourteen years. The disease began five years ago, and then appeared like a bruise on the inner side of the left upper arm. It now appeared as a dusky red patch, on stretching which tiny white tumours could be seen and felt below the cutis. Microscopically these were said to resemble atheroma. In addition to these was a raised red lump in the middle of the patch. It contained fluid, and had only appeared within the last three days. A new patch over the deltoid had appeared three weeks before. The opinion was expressed that the disease might be parasitic, on account of its spreading by the edges, and that it was difficult to reconcile atheroma with the age of the patient.

The PRESIDENT (Mr. Hutchinson) showed a case of Psoriasis of the Nails in a young man aged twenty years. The disease had lasted four months, and though the patient in this case did not present patches of psoriasis elsewhere, the disease was characterised as usual by beginning at the free border of the nail and working backwards, with the result that it loosens the anterior half of the nail without breaking or splitting up the nail itself, but simply raising it from its bed. The nail itself is not affected excepting as regards its colour, assuming a sort of greenish tint.

Dr. COLCOTT FOX exhibited a case of Dystrophia Unguium in a female aged twenty-three years in whom the condition had existed for sixteen years. The finger-nails were dark in colour, raised, curved, and narrowed; those of the toes were atrophied into little horny lumps or entirely gone as on the little toes.

Dr. GALLOWAY showed two boys aged twelve and fourteen years, subjects of Monilithrix, a rare disease in this country. The patients were brothers, a fact which supports the view of contagion. The bacillus of this affection has been isolated and cultivated by Dr. Hodara, formerly Dr. Unna's clinical assistant.

WEDNESDAY, AUG. 5TH.

Tumours and Malignant Diseases of the Skin.

Dr. STEPHEN MACKENZIE showed a remarkable case of recovery from Multiple Pigmented Sarcoma of the Skin (Kaposi type). The patient was a man aged fifty-four years, whose hands and feet were affected with livid nodular growths, which, on histological examination, were proved to be sarcoma. The right leg was amputated four years ago, and the hands and the remaining foot thereupon spontaneously underwent cure.

Dr. COLCOTT FOX showed a case of Primary Multiple Sarcoma of the Skin in a woman aged twenty-one years. The growths consisted of hard, button-like elevations scattered over the trunk of two years' growth. Growths appeared on the scalp also in February, 1895. There was no involvement of the viscera or other organs. It was a primary sarcoma of the skin.

Dr. RADCLIFFE CROCKER showed a case of Granulomatous Tumours which excited a good deal of interest. The patient was a man aged thirty-seven years. In the spring of 1895 his joints began to give him trouble and they became progressively worse, until at the present time he is hardly able to walk. In July of that year small crimson tumours appeared on the hands and the head, and successively the skin on the back and other parts became involved with the same nodular growths. In May, 1896, salicylate of soda was administered for the arthritic condition, and in the course of a week the tumours underwent marked diminution in size; the involution has continued under salicylate, until at the present time only a few nodules around the elbows are left. The diagnosis rested between granuloma fungoides and sarcoma; but under the microscope the growth presented the typical appearance of myeloid sarcoma. The case is extremely interesting as pointing to spontaneous involution which sarcoma of the skin sometimes undergoes, and is interesting for comparison with that of Dr. Stephen Mackenzie just mentioned. The presence of a large quantity of myeloid cells in the sections is also interesting in connexion with the marked enlargement of the bone ends.—Dr. MORGAN DOCKRELL showed a man aged thirty-one years who had a number of vascular spherical solid tumours on the scalp, some of which had shrivelled up. A microscopic examination had not been made, but the opinion was expressed that they were of a sarcomatous nature.

Cases of Rodent Ulcer were shown by Mr. STARTIN, Mr. KETTLEY, Dr. ABRAHAM, Dr. MORGAN DOCKRELL, and Dr. PRINGLE. Dr Pringle's case of this disease, which had lasted six years, had undergone marked improvement since the application of resorcin, plaster and plaster-mulls. Dr. Dockrell's case, which had lasted only one year, had been treated successfully in the same manner, combined with the internal administration of resorcin, three grains thrice daily internally, which had also relieved the pain.

Mr. MALCOLM MORRIS showed a woman aged sixty years suffering from actinomycosis treated by iodide of potash. A coloured sketch was shown of the extensive growths taken at Christmas, 1895. She was under treatment by iodide of potassium from Nov., 1895, to May, 1896, when the tumours had quite disappeared. (See THE LANCET, June 6th, 1896.)

Dr. BULL showed a case of Xeroderma Pigmentosum (Kaposi's disease) in a woman aged twenty-five years, in whom, as usual, a marked family history of the same condition existed, two aunts and two uncles on her father's side having suffered from the complaint.

Dr. VINRACE exhibited a man aged thirty years who presented a number of Soft Pale Tumours scattered over the trunk varying in size from a sago grain to a nut. The disease began ten years ago and some of the smaller ones had appeared within the last few months. The diagnosis rested between molluscum fibrosum and lymphangioma, but their softness and the fact that some of the larger tumours could be emptied by pressure was held to be in favour of the latter.

Dr. DE COSTA had brought all the way from Amsterdam a girl aged twenty-one years presenting Localised Patches of Sloughing Skin situated on the left arm, trunk, and legs. These patches were oval or circular, measuring from a quarter to one and a half inches in diameter, and consisted simply of a slough surrounded by a zone of congestion. The condition was strongly suggestive of an artificial traumatic origin, but it had been going on for thirteen years. The patient had been under observation in hospital for three months at a time, and Dr. de Costa had watched the process of development of these patches. The whole limb would become swollen and erythematous and then the localised, circular white patch would form, followed by a slough. On the whole the disease most resembled gangrenosa hysterica, although the patient presented no evidence of anæmia or hysteria.

THURSDAY, AUG. 6TH.

Various Forms of Tuberculosis of the Skin.

The most interesting of the many cases shown on this occasion was that of a boy aged twelve years, brought to the meeting by Mr. JONATHAN HUTCHINSON, who presented a small but typical patch of Lupus upon his right forearm in the position of a tattoo mark. The tattoo represented the outline of a heart crossed by flags, which had been done by a needle and Indian ink two years before. The moisture used to dissolve the paint had been the saliva of his brother, who was then dying from phthisis. The scratches thus made did not heal, and there appeared directly after two lupus spots in the position of the flags, and small papules of the same growth along the course of the outline of the heart. Some of these had gradually disappeared, leaving small scars, in the course of twelve months, but there still existed some of the lupus growth. The case illustrates the essential identity of pulmonary and dermal tuberculosis, and indicates lines for the preventive treatment of both. It may well be read in connexion with the discussion on the prevention of phthisis at the British Medical Association.

A large number of cases of tuberculosis of the skin were shown with different names attached to them according to the minute differences of appearance they presented. Several cases of lupus vulgaris and erythematosus were exhibited which had derived benefit from the administration of thyroid extract. These may be summarised as follows. Lupus tumidus (affecting the nose) in a boy aged fifteen years; thyroid extract had been administered since March, with marked improvement. Extensive lupus vulgaris in a male aged twenty-one years of two and a half years' duration; five grain tabloids had been administered thrice daily throughout, with marked improvement, leaving a delicate, pliable scar. Multiple lupus vulgaris in a male aged twelve years; there were eight or ten patches on the face and limbs, improving under thyroid extract, maltine, and ointment. Another case under the same observer improved without external treatment or maltine. Lupus erythematosus in a male aged fourteen; he had had thyroid extract for three weeks and is improving. Two cases of lupus erythematosus, females, aged twenty-six and twenty-eight years respectively (Dr. Payne); both were treated by sulphate of quinine, thirty grains or more daily, and 5 per cent. salicylic acid collodion painted on. One case was so perfectly healed as to raise doubts as to the former existence of the disease, and the other very nearly so. Dr. Abraham showed cases illustrating the efficacy of thyroid extract, and others showing the efficacy of thorough scraping and the application of acid

nitrate of mercury. A case under Mr. Malcolm Morris's care (a man aged twenty-one years) illustrated the value of a 10 per cent. ointment of pyrogallic acid.

Several cases of erythema induratum scrofulosorum (Bazin's disease) were shown by Dr. Abraham, Dr. Dockrell, Dr. Mackenzie, Mr. Morris, and Dr. Waldo, and other cases, though exhibited under the names lupus pernio, lupus erythematosus of a telangiectatic type, and erythema telangiectiformis, were probably of a kindred nature. All of these cases were characterised by areas of hard congested skin, with a tendency to the formation from time to time of solid, deep-seated purple lumps, which may undergo resolution in the course of a few weeks, or may very occasionally necrose and separate with very little suppuration, leaving only a faint scar. The favourite locality is the extremities, usually symmetrically situated, though the face may be affected, and the patient usually has cold, cyanotic hands and feet, and other evidences of feeble circulation. The condition is worse in the winter, it sometimes runs in families, and is not unfrequently attended by a family or personal history of phthisis. In Dr. Stephen Mackenzie's case,[1] a woman aged forty-three years, the condition had lasted for fifteen years; in Dr. Waldo's case, a woman aged forty-four years, for one year; in Mr. Morris's case, a girl aged seventeen years, for three years; and in Dr. Fox's cases, women aged thirty and thirty-five years, for ten years—one of whom had a sister affected for two years. In the summer time the patient may be comparatively free from the disease as in Dr. Mackenzie's case. The malady referred to is less common among the wealthy than among the poor and destitute, among whom the disease is more frequent than is thought by the higher-class practitioner and hospital physician, for the patients do not seek advice for the condition unless severe.

Vegetable Parasitic Diseases.

What is every man's work is no man's duty, and so it happened that not a single case of ringworm was exhibited, because every one thought he would not add to the expected plethora of such cases.

Dr. ABRAHAM exhibited a mother aged twenty-five years, and her two children aged six and two and a half years respectively, the subjects of complete Congenital Alopecia, of the scalp, eyebrows, and other parts. Thyroid extract had been administered, it was thought successfully, in the elder child, and it was proposed to try the efficacy of the oxygen bath.

Dr. PRINGLE showed a case of Folliculitis Decalvans in a man aged fifty-two years which had begun on the vertex thirteen years before and had subsequently involved the eyebrows and beard. The disease appeared as pustular inflammation of the hair follicles which left indelible pits. No fungus could be discovered. The same gentleman exhibited a case of favus in a lad aged sixteen years, which had been contracted at school and had lasted for ten years.

Dr. PAYNE showed an interesting case of Xanthoma Diabeticorium in a man aged thirty-nine years. The symptoms of diabetes dated from twelve months back and the patient was now passing over 4000 grains of sugar per diem. The eruption, which had appeared three weeks before, consisted of small, pinkish, hemispherical nodules with a yellow centre, scattered over the buttocks, knees, thighs, and elbows. The itching was severe and many of the papules were capped with blood.

FRIDAY, AUG. 7TH.

The Erythema Group.—Purpura.—Dermatitis Herpetiformis.—Urticaria Pigmentosa.

Under the title Erythema Perstans Dr. ABRAHAM exhibited the case of a woman aged forty-eight years, who had been affected with a persistent erythematous condition of the face, hands, and feet for the past twelve months. It was worse in the winter, when she also suffered severely from chilblains. No cause was discoverable, but there existed a permanent rapidity of pulse and a neurotic temperament. The same gentleman exhibited a case of Pityriasis Rosea in a youth aged sixteen years, which had followed eczema of the leg. The eruption, which consisted of slightly raised maculæ with erythematous borders leaving a yellow stain, started on the chest and back, and had spread thence to the arms and legs.

Dr. COLCOTT FOX exhibited a case of Dermatitis Herpetiformis in a female aged thirty years which had lasted for twelve and a half years. The vesicles, often semi-purulent, came out in crops, and though at the time of exhibition there were none to be seen the skin everywhere was in a state of desquamation or covered with crusts, the spaces between being red and tender.

A very remarkable case of Purpura in a man aged thirty-seven years was exhibited by Dr. PRINGLE. What was now an almost universal capillary purpura had begun six weeks ago symmetrically on the inner sides of the feet and spread upwards, affecting the whole surface except the face and head. No cause could be made out. The gums were slightly spongy, but no other evidence of scurvy existed and the patient was in good health. No cardiac disease, syphilis, albuminuria, or hæmaturia could be detected. The eruption was now fading.

Mr. JONATHAN HUTCHINSON, jun., showed a girl aged twelve years who presented a Syphilitic Lupoid Eruption consisting of red oval areæ, with raised, crusted crescentic margins scattered over the arms and legs. It illustrated the great difficulty which often presents itself in the diagnosis between syphilis and tubercle, for whereas the disease had lasted for nine years and there was a marked history of phthisis and evidence of joint disease, which might be either strumous or syphilitic, the eruption had improved under anti-syphilitic remedies.

Dr. RADCLIFFE CROCKER exhibited a case of that rare condition known as Urticaria Pigmentosa in a boy aged eleven years, who had suffered from it since the age of five. The eruption, which was mainly situated on the trunk, consisted of smooth, sometimes raised, spots of yellow-red colour, with a zone of congestion around. These on fading left a brownish stain, and there existed at the time of exhibition the dermatographia which entitles the disease to the name urticaria. The disease was improving slowly under treatment.

SATURDAY, AUG. 8TH.

Scleroderma.—Skin Affections associated with Diseases of the Nervous System.—Leprosy.

Dr. STEPHEN MACKENZIE showed three cases of Scleroderma Circumscriptum (Morphœa of Wilson), exhibiting the usual white depressed spots or streaks surrounded by fawn-coloured pigmentation in different parts of the body. In one, a girl aged nine years, the early stage of the affection was seen in the recent patches on the trunk, which had an urticarial appearance, only harder and of a lilac tint. These had come within the past few months. In the second case, a female aged thirty-four years the disease had begun seven years before on the neck and thorax, appearing later on the arms and legs. Here the dead white depressed spots with fawn-coloured zone around could be seen. And, finally, in the third case, a man aged forty-two years, the disease had begun twenty-seven years ago on the arms and legs, though now there is diffuse symmetrical infiltration of the whole skin excepting the face exhibiting the similitude to leprosy upon which Erasmus Wilson used to insist—a likeness which was further strengthened in this case by slight diminution of sensation.

Dr. RADCLIFFE CROCKER showed two cases of Scleroderma Circumscriptum localised more or less to the distribution of the supra-orbital nerve. One of the patients, a woman aged thirty-seven years, had prior to the skin lesion been a martyr to neuralgia of that nerve and still suffers from it. In the other, a girl aged twelve years, the disease was of more recent origin (four years) and there was no neuralgia.

Dr. ABRAHAM showed a case of the same disease in a woman aged forty-four years. The patch beneath the left mamma was of more recent origin (five months) and still presented the lilac blush of the first stage.

Dr. SAVILL exhibited a case of Xeroderma in a girl aged fourteen years in whom the roughness and harshness of the skin was first observed at the age of five. There was a family history of nerve disease and the patient had been gradually attacked with a weakness of the right arm in May last. Both the patient and her sister had rough skins and both were affected with an intractable psoriasis since the age of ten.

Dr. GALLOWAY exhibited a case of Syringomyelia in a man aged forty years, who was the subject also of painless whitlows of the fingers and irregularity of the cutaneous circulation.

Dr. MORGAN DOCKRELL exhibited a case of Leprosy in a man aged thirty-seven years, on whose hands and arms small yellow anæsthetic spots appeared ten years ago. There was now extensive anæsthesia of the upper limbs with infiltration and ulceration of the hands and face. He was formerly resident in British Guiana and had had a brother and an aunt who died from leprosy.

Dr. RADCLIFFE CROCKER exhibited two cases of Leprosy which had greatly improved under hypodermic injections of mercuric perchloride, and which were published in full in THE LANCET of Aug. 8th.

[1] Transactions of the Clinical Society, vol. xxii.

THE LANCET.

LONDON: SATURDAY, AUGUST 15, 1896.

THE deliberations of this Committee, which was originally appointed in the year 1894, have at length come to an end, and we may venture the opinion at once that the recommendations which they have drawn up would, if adopted, place the present Food and Drugs Act on a more satisfactory basis. We confess to disappointment, however, in respect to some of the features of this report. It contains no definite pronouncement, for example, upon the very important question of food standards or on the use of antiseptics in food. After all, we are hardly surprised at these omissions since the Committee was not composed of representatives of scientific opinion, but its members rather held the position of representatives of the public who were well qualified to judge of the working of the Acts from that point of view. Accordingly technical questions such as those indicated have been referred to a court of reference, the formation of which they have recommended, and the chief function of which is to be that of prescribing limits and standards of the quality and purity of food. This recommendation must necessarily defer legislation on some of the most pressing and defective points in the present Act. And this delay will be felt most in regard to milk. In expressing an opinion on this important article of food the members of the Committee are rather diffident, but we observe with some satisfaction that their opinion, taken on the balance of evidence, is in favour of high standards. On the other hand, their recommendations in regard to the sale of mixed articles are much more definite, and it should be made obligatory, they think, to give notice of mixture by a label which should be legibly and distinctly written or printed. The proposal, however, that the labels on mixtures should set forth the several components of the mixture does not, after some lengthy consideration, receive their support. The necessity of some provision of this kind becomes obvious, however, when mixtures containing 90 per cent. of chicory and 10 per cent. of coffee are sold as coffee mixture, and we regret that the Committee could not act on the suggestion that in the statement of the ingredients on the label the substance which is present in the greatest quantity should first be mentioned, or that the name of any article of food should not appear in the designation of a mixture in which it is not present to the extent of 50 per cent. It must be conceded, however, that these matters, and especially the proposal to fix legal limits on the quality of milk and to prohibit the use of preservatives, are not such as to admit of precipitate decision.

The Committee's conclusions and recommendations relating more particularly to the general administration of the Acts are, we venture to think, commendable, and it is a matter of gratification to ourselves that the majority of these conclusions are emphatic upon those defective sections of the Act, to which we have constantly drawn attention in these columns.[1] To start with, it is agreed by the Committee that the Act has in many instances been a farce because of the failure of local authorities to use the powers invested in them to take and have samples examined, and this has been due to the fact that in some instances the local authority was a body largely composed of tradesmen; in other instances it appears to have been due to pure apathy. Contrary to the opinion expressed by the Local Government Board, the members of the Committee urge, in view of the fact that the greater the number of samples taken the more efficiently does the Act work, that a proportion of samples much in excess of one sample per annum for every 1000 of the population should be taken in the district of every local authority.

In regard to penalties it is found that there is ground for the statement that inexplicable leniency has been shown by magistrates in dealing with adulteration offences. Under these circumstances it is added by the Committee, as in substance we have often said, "it is worth while to go on adulterating and run the risk of proceedings being taken." Heavier penalties at any rate for second offences are therefore suggested, and further, the very salutary proposal is made that as an additional punishment the offender should be required, subject to the magistrate's judgment, to publish at his own expense a notice of his conviction in the public journals of the locality in which his place of business is situated, or to give publicity to the conviction in any approved method. This brings forcibly to mind the method adopted by the late Mr. WAKLEY, the founder of THE LANCET, in the reports published in THE LANCET, of the results of the famous Analytical Sanitary Commission. In these reports the names and addresses of the offenders were printed. We have frequently drawn attention to the fact that the proportion of adulterated samples found amongst those taken by private purchasers is much greater than amongst those procured by the officers appointed by the local authorities. In other words, the inspector becomes known and he receives articles that may be especially reserved for his purchase. To remedy this the members of the Committee make one suggestion, which has already been to some extent adopted, that is, to employ agents to make the actual purchase, and then for the inspector to step in and finish the formula. We think stronger recommendations should have been made on this point, especially in view of the Committee's admission that the number of adulterated samples obtained privately was largely in excess of those obtained by persons who are unmistakeably official by their clothing or other distinctive feature.

Recent proceedings have made it desirable that the word "food" as applied to the Act should have a more comprehensive definition. Substances which are destined only to be used in, or mixed with, food have in some instances been ruled not to have been food within the meaning of the Act. Thus, to quote one notorious instance, while the use of alum in bread or flour is forbidden by law, yet the same substance can be employed in baking powder without an offence being committed, because baking powder *per se* cannot be considered a food. We

[1] Compare THE LANCET, March 9th, 1889; Aug. 1st, Oct. 3rd, Nov. 28th, 1891; Nov. 12th, 1892; and Feb. 25th, 1893.

are glad to find that the members of the Committee have recognised the necessity of an amendment in this connexion, so that the term shall include expressly all articles intended to enter into, or to be used in, the preparation or flavouring of food. But here again we must be content to await the decisions of the proposed court of reference. As to the constitution of this body the members of the Committee are disposed to think that it would be preferable to avoid the creation of an independent authority for this purpose and to recommend that the court of reference should take the form of a standing departmental committee appointed by the Board of Trade. This committee should comprise, in their opinion, one or more analysts of repute, together with representatives of the General Medical Council, the Institute of Chemistry, and the Pharmaceutical Society, while it is suggested also that the principal officer of the Government Laboratory at Somerset House should be *ex-officio* a member, and that scientific experts and representatives of the trading and manufacturing community as well as nominees of the Local Government Board and Board of Agriculture should be included. We heartily agree with the Committee in thinking that standards would be better fixed by such a body than by means of an Act of Parliament, especially as such an arrangement would more readily admit of the alteration of a standard if it were found desirable. We are also glad to find that the members of the Committee are in substantial agreement with the views we have expressed as to the way in which public analysts have hitherto carried out their duties. In the words of the Committee the duties have been discharged with commendable efficiency, and this is a striking argument for the re-arrangement of the public analyst's remuneration, which in some cases is utterly disproportionate to the work expected from him. This matter, as well as his appointment, has been hitherto entirely in the hands of the local authorities, but both are now, we hope, to be subjected to the approval of the Local Government Board.

Another very excellent recommendation of the Committee is to the effect that public analysts should be made acquainted with the methods adopted by, and be put in possession of certain information that reaches, Somerset House officials from time to time. We have never disputed the accuracy of their work, although we have taken exception to their certificates when they were based on the analysis of samples, such as of milk, that were highly advanced in decomposition. The question of the value of a certificate of analysis of sour milk was another point which the Committee preferred not to discuss.

In conclusion, it will be seen that the recommendations for amendment are not so drastic as the provisions of the present Act would seem to require, and, with some few exceptions, we think the members of the Committee are right in taking this view. Legislation of this kind must be effected temperately, and, in spite of the considerations which led to the appointment of this Committee, there is no doubt that the present Act has on the whole worked well. Further, it has been shown that the Act would have worked better if its administration had been more vigilantly applied by the authorities to whom its working has been entrusted. The amendments suggested, however, not only provide a remedy for this grave defect, but contain also some admirable proposals which aim not only at the suppression of adulteration but at the raising of the food supply to a higher standard of quality.

WE have kept our readers informed from time to time as to the progress of the Select Committee appointed to consider the London Water Companies' Bills, and from annotations upon the subject some idea of what the drift of the report would be might have been gained. The report has since been published. We cannot help remarking again on the admirable despatch of the business which was before the Committee, and we attribute this largely to the very able chairmanship of Sir JOSEPH PEASE and to the lucidity and conciseness which characterised the evidence of several of the witnesses. It will be remembered that the Committee were instructed by the House of Commons (*a*) not to confer additional powers except so far as the same may be proved to the satisfaction of the Committee to be required for works or for the acquisition of the land, the construction or acquisition of which cannot be postponed without detriment to the interests of the public; and (*b*) to insert in any Bill authorising the creation of further capital provisions which will prohibit the application of such capital to any purpose other than the construction of the works or the acquisition of the land for which it is authorised by the Bill to be raised or the expenses of the Bill. The Bills before them were the following:—The Chelsea Water Company's Bill, the Lambeth Water Company's Bill, the Staines Reservoirs Bill, the New River Water Company's Bill, and the Southwark and Vauxhall Water Bill. The preambles of the first four of these Bills with extensive alterations in the clauses have been passed, while the preamble of the Staines Reservoir Bill has been considerably amended. The case for the Southwark and Vauxhall Bill was not proved. The Committee consider that no large new source of water supply for the constantly increasing wants of the districts concerned could be made available for at least from thirteen to fourteen years from the present time. Consequently the population, now numbering 3,863,566, must be supplied from sources now available for at least that period, and as the present powers of supply of some of the companies will during that period become exhausted, the storage being already inadequate, provision must be made in the public interest for the further supply and storage of water required in the interval. This is quite opposed to the action of the London County Council, who have blocked the way in recent years against the acquirement of additional storage-ground. The Committee show that the storage of the companies interested in the Staines Reservoir Bill is greatly deficient and far short of the estimate of the Royal Commission of 1893 if the supply is to be good, wholesome, and continuous. A point of extreme importance raised by the Committee, and one which we ourselves have urged,[1] is that, in spite of the recommendations of this Commission, no regulations yet exist as to the processes deemed expedient before water is in a fit condition to be supplied to the consumer. Thus, it appears that the water examiner has no legal right of entry or power to check the quantities abstracted from

[1] THE LANCET, March 2nd, 1895.

rivers, wells, springs, &c., or as to the quantities pumped into the mains, or to make inspection of the processes of filtration. We heartily endorse the opinion of the committee that regulations on these lines are imperatively, and we would add immediately, necessary. Doubtless it is this and other considerations that led the committee to point out "with great deference that the present position of the London water-supply is not in accordance with the public interest," and they add that under the conditions of issuing new capital now invariably approved by Parliament for the London water companies the public is steadily acquiring an interest which tends to weaken the enterprise of the companies as private concerns, whilst, on the other hand, the consumer is left without that care of his interests, which is ensured by placing the supply under a representative body in whose election he is personally interested. The Committee very properly draw attention to the numerous applications made to Parliament, sometimes inconsistent and usually without concert with one another, which are opposed by local authorities and private persons. As they remark, these proceedings annually cost the country a very large sum of money, and Parliamentary Committees, being obliged to consider each proposal separately without reference to any general scheme, have the almost impossible task of deciding what powers should be granted to the companies in order that they may provide for the wants of an ever-increasing population, and what powers should be withheld to avoid the companies acquiring an increased value in the event of purchase by a public authority. From this acknowledged anomalous position it would be greatly to the public interest, add the Committee, that both the companies and the inhabitants of London should be speedily freed. It will be seen that the report is admirable in its clearness of statement and judgment, so much so as to tend to simplify a very complex and intricate question.

WE are told that after the incident of the Tower of Babel the people were scattered abroad, not understanding each other's speech, and those who possessed but an everyday experience of skin diseases must have confessed to a somewhat similar feeling at the conclusion of the Third International Dermatological Congress which met in London last week. This feeling, however, may not have arisen by reason of the different languages spoken, or out of the variety of the scientific work done, but simply from the complexity of the names used for diseases which to the ordinary observer appeared almost, if not quite, identical. If reference be made to page 466 of this issue there will be found eleven different names employed for so-called different forms of tuberculosis of the skin. Why so many different names should be used for morbid processes known to be due to one cause, the tubercle bacillus, running very much the same course, presenting very much the same appearances and amenable to very much the same treatment, it is difficult to see. One of our oldest dermatological societies spends an appreciable part of its time in seeking to append to a case its appropriate name, and if all this difficulty is incurred by men who devote their time wholly to dermatology, what of the general practitioner and what of the unfortunate student who approaches dermatology as one only of many divisions of his work? Surely the time has come when some stand should be taken and some attempt made to adopt common names for the connotation of common ideas. The President in his able opening address referred to the subject, and advocated the use of the name of the first patient described. Certainly this (although in its main idea we think highly objectionable) would have the merit of not implying any debateable theory; but whatever the particular remedy adopted some reform is urgently called for, and we recommend the subject to our dermatological colleagues.

The opportunities of the dermatologist are great. He is able to watch, from day to day, diseased processes on the surface of the body, for the proofs of the very existence of whose analogues in general pathology observers are compelled to resort to inference. The large domains of syphilis, tubercle, and malignant disease produce ample illustrations of these truly splendid opportunities, and valuable additions have accrued to the knowledge of general pathology by the study of dermatology. Valuable general laws which govern these processes have been deduced from observation of them as they affect the skin. The identity of tuberculous processes in the skin is now fully established, and was once more strikingly illustrated by a classical case shown by Mr. HUTCHINSON of a boy who developed lupus on a tattoo mark consequent on inoculation of the saliva of his brother, who was dying from pulmonary tuberculosis. Again, it is possible for the dermatologist to actually procure a piece of the diseased tissue and examine it microscopically—to make a necropsy, as it were, during life—a procedure which is very frequently adopted on the Continent. We do not wish to imply that dermatologists do not realise, and avail themselves of, these opportunities. The work done at the recent Congress would negative this. But the progress made in the science would probably be doubled if the terms used could be simplified and diminished in number, so that observers could understand each other's language and the ordinary student could grasp the rudiments. In the scientific discussions of the Congress much good work was done, though no very startling discovery was brought to light. A great deal of interest centred around the discussion on ringworm and the trichophytons, opened by Dr. SABOURAUD, in a speech which shows him to be a master of oratory as well as of scientific research. Some difference of opinion was expressed as to the separate existence of some of the very numerous species, but there seemed to be a general agreement that many of the large-spored varieties are of animal origin. Next in attractiveness came the connexion of tuberculosis with diseases of the skin other than lupus vulgaris, but nothing much that is new was added to our knowledge. Lupus erythematosus is still classed as a tuberculosis by inference only, and for the rest, much of the time seemed to be devoted to the splitting up of the known tuberculous processes of the skin into an infinite number of varieties. Dr. STEPHEN MACKENZIE'S paper on Erythema Multiforme and the discussion which followed have undoubtedly advanced our knowledge of the clinical manifestations of this affection.

Many excellent papers were read and much interesting interchange of ideas took place, but when reviewing the whole it has seemed to us that if the subjects chosen had

had a somewhat more practical bearing the Congress would have proved more useful. Of all the eight subjects set down for discussion not one had any direct bearing on methods of treatment. Possibly this is accounted for by the very simplicity of treatment of skin diseases.

Annotations.

"Ne quid nimis."

THE FINANCES OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT the last meeting of the Council the balance sheet of the collegiate year was presented. From this we learn that, as regards the income, there has been a decrease of £779 from the first and second examinations, but an increase of £792 on the third examination for the Membership. This increase is probably to be accounted for by the fact that according to a new rule the majority of rejected candidates are referred for only three months instead of for six months, and therefore many candidates have been examined within the year who otherwise would not have been admitted to re-examination until the next year. The balance on the income and expenditure account is £1481, which is satisfactory. As to the sources of the income of the College £5706 is the profit from the examinations for the Membership; £6340 is received from house property and investments, and small amounts come from other sources; the total income is £12,872. It is interesting to see that almost half of the income of the College is derived from house property and investments, and almost the other half from examinations for the Membership. The items of expenditure are not detailed, but the College expenses amount to £10,304. This includes fees to examiners, the cost of the unrivalled museum, and half the expenses of the laboratories at the Examination Hall.

"A CASE OF PLURAL ECTOPIC GESTATION."

AN interesting case is reported under this heading in the July number of the *American Journal of Obstetrics* by Dr. P. Michinard. The patient, aged twenty-three years, had been delivered normally at term in January, 1894. Menstruation did not occur till Dec. 25th, 1894 (the date is given as 1895, but this is obviously a misprint). This was the only time menstruation occurred between the date of confinement and that of the subsequent conception. In June, 1895, the abdomen was observed to have become enlarged. On Sept. 10th a careful examination was made and a correct diagnosis was arrived at. Two days later in the early morning the patient was seized with severe pain in the lower abdomen and soon became collapsed. It was at this period that Dr. Michinard saw her and by his advice she was removed into hospital for operation. Prior to the operation half a gallon of normal saline solution was injected into the median cephalic vein with the result that the pulse fell from 160 to 110. The operation appears to have presented nothing specially remarkable; a six months' fœtus (13 in. in length) was found free in the peritoneum with a large quantity of blood and clot; the ruptured tube was removed in the usual way, and after the peritoneum had been cleansed with sterilised gauze the abdomen was closed without drainage. On examination of the tube which was removed it was found to contain a second fœtus of about three months' development (2½ in. in length). Dr. Michinard summarises the points of interest as follows: (1) at the time of rupture the tube contained two fœtuses each with its individual placenta; (2) one fœtus was small (2½ in. long) and flattened; (3) the other fœtus was normal in appearance and about 13 in. long; (4) at the time of rupture the patient had not menstruated for nearly nine months; (5) the patient never had any symptom that indicated disease of the uterus or of the appendages; (6) the tube on the opposite side was healthy in appearance; and (7) the patient at the time of writing was in the fourth month of uterine pregnancy and did not present any sign of tubal or ovarian disease. Among additional points of interest we may instance the facts that the patient was only twenty-three years of age and that the extra-uterine pregnancy followed a normal delivery at term after only a comparatively short interval.

A HERO'S DEATH.

"THE age of chivalry," said Burke, "is dead." Yes; but not the age of heroism, as, indeed, we were recently reminded. Our Rome Correspondent lately mentioned[1] the mission to King Menelik for the release of the Italian prisoners, combatant and medical, who fell into his hands on the disastrous day of Abba Carima. That mission was started by the Roman ladies, with the Countess Di Santa Fiora at their head, and its conduct was undertaken by the Abbé Wersowitz-Rey, a patrician by birth and wholly given to good works. Soon after setting out he had a sunstroke, and Dr. Lafont, the French physician at Gibuti, cautioned him to expose himself in the great heat as little as possible, to doff the priestly habit, and to wear the white garments and the white pith helmet indispensable for Europeans in the tropics; above all, not to work more than two or three hours a day. But Count Wersowitz gave scant heed to this advice, and eager to push on the expedition he worked at the preparations for the caravan unremittingly and fearlessly. These occupied about a month, and by the time that the supplies had come from Aden (on July 2nd) and the caravan, complete in every detail, set out for Shoa he had almost visibly added ten years to his looks and to his life. The company was eight strong—Monsignor Civillo Macario and his secretary, the Counts Choiseul and Wersowitz, with four others, and an escort of sixteen soldiers. The first halting-place was Rambouji, a desert plain of sand, but as the camels with the rest of the baggage were still due, *en route* from Gibuti, Count Wersowitz had to command a halt till the following evening. He then planted two tents and prepared an altar, as it was Sunday and he wished to celebrate Mass and then assist at that of Père Oudin, another of the company. By this time the heat had become intense, inducing intolerable thirst, and on this account seven of the eight repaired to some wells about half a mile off to fill the water-bags. Wersowitz remained behind. Returning in half an hour they found Oscar (Wersowitz's servant) stretched out under a tent apparently asleep, but really unconscious from insolation. "Your servant is in a bad way," said Monsignor Macario to the Count; "come and see him." Wersowitz, himself worn out and hardly able to walk, made an effort to follow, only to find his faithful servant *in extremis*. A negro was sent to Gibuti for a physician, and meanwhile, in the absence of ice, such water as was available was poured on the dying man. But in vain; three hours afterwards he breathed his last Wersowitz administering extreme unction and commending his soul to God. Not many minutes later Wersowitz himself felt ill, and all of the company recognising his danger he was persuaded to return to Gibuti. He was accompanied thither in a covered vehicle by Count Choiseul and Monsignor Macario's secretary, but by the time he reached the place his condition had awakened the liveliest apprehensions. That evening the vehicle came back from Gibuti with the secretary, who announced to Père Oudin that

[1] THE LANCET, May 30th, 1896.

Wersowitz was dying. The company were thrown into consternation, and leaving the secretary to keep watch at the tents returned to Gibuti, taking with them for burial the dead body of Oscar. They found the poor Abbé moribund, with a nun and a man-nurse beside him, and Dr Lafont with his assistants bestowing every care upon him. But the struggle was of short duration. About midnight the brave Paladin died, having just received the last comforts of religion, surrounded by Monsignor Macario and his colleagues. Next morning at eight his body was laid to rest near that of his trusty retainer Oscar in the Catholic "God's acre" of Gibuti. So died the Abbé Count Wersowitz-Rey, under a tropical sky, in behalf of a foreign Power, but in a cause which he would have disdained to call "not his own," for that cause was humanity whose field is the world, and his noble conduct will go down to posterity in company with that of the heroic Father Thomas, who ministered to the prisoners in the dungeons of Morocco after the rout of the Portuguese army at Larache in 1578.

REPORT OF THE VACCINATION COMMISSION.

THE country will not have to wait much longer for the text of the report of the Royal Commission on Vaccination, based upon the information, which has been both oral and documentary, collected during an inquiry which has extended over the unprecedented length of seven years. According to the *Times* it is said that the report, which was to be laid on the table of the House of Commons before the prorogation, was signed by all the members of the Commission with the exception of two (Mr. Picton and Dr. Collins) who present a minority report of their own. It was, however, circumstantially stated in another quarter (*Daily News*, Aug. 12th) that the report consists of three parts, a first, which embodies the unanimous conclusions of the Commission; a second, containing recommendations of a majority; and a third, that of a minority of four. The part of most interest is that in Part I.; there is a unanimous recommendation which amounts to an abolition of the compulsory clauses of the Act. In the interim report issued three or four years ago the recommendation to desist from enforcing repeated penalties, made at a time when the Commission had the benefit of the assistance of Sir W. Savory and Dr. Bristowe, foreshadowed the conclusion that is apparently now arrived at. We are told further that "vaccination is, on the whole, approved of," but we prefer to wait for the actual text of the report before crediting the fact that vaccination is regarded in such a half-hearted fashion as that qualifying phrase would suggest. The majority report recommends, *inter alia*, it is said, the transfer of vaccination-control from boards of guardians to sanitary authorities, and the use of calf lymph; whilst the "minority of four" (or is it two?) are stated to "wholly discountenance any State or public interference with a parent as regards vaccination." It is also said that Sir Guyer Hunter and Mr. Jonathan Hutchinson append to the majority report a memorandum advocating compulsory vaccination and re-vaccination at the age of twelve; whilst Mr. Bright and Mr. Whitbread object to any form of compulsion, but suggest the furtherance of greater facilities and care in gratuitous vaccination. It is clearly impossible to enter upon any discussion of the report and of its probable bearing on legislation until the full text is before us.

EMBALMING.

A CORRESPONDENT asks for some information regarding the method of embalming as practised in the United States of America. The process is quite different as far as we know from that employed by the ancient Egyptian and probably the Assyrian and Persian nations, which seems to have consisted in filling and surrounding the corpse with aromatic substances. In addition to these artificial means the atmospheric conditions prevailing in these countries were extremely favourable to the quick drying and desiccation of the body under treatment, and the artificial operations were thus aided by nature. America not being blessed with the same dry atmosphere as Egypt other methods of preserving dead bodies have to be employed, and those adopted are similar to those said to have been used by the ancient Peruvians, who injected and anointed their corpses with pyroligneous acid, creosote, and other preservatives obtained from imperfectly burnt wood. For the most part embalming in America is practised by funeral undertakers, who open one of the large arteries, such as the brachial or femoral, and inject some preparation of carbolic acid, arsenic, mercury or zinc, at the same time filling the large cavities of the body with the preservative fluid. When intelligently performed it would seem that this process does preserve the body and is of great use where it is desirable that a corpse should lie in state for any length of time. But the operation of embalming is too often performed by incompetent persons, with the result that decomposition sets in almost as soon as if the body had not been embalmed at all; and under such circumstances not only are the executors of the deceased defrauded of the large fee which is always charged, but public health is menaced.

MEDICO-MILITARY BIBLIOGRAPHY IN FRANCE.

A LIST of the more important scientific works produced by medical officers of the French army during 1895 has been published. The titles of the works and the names of the authors are as follows:—Tuberculosis in the Army and its Prophylaxis, by Surgeon-General Antony; Scarlatina in the Regiment of Sappers and Miners during the Winter 1894-95, by Surgeon-General Fournié; Sketch of a Medical Constitution with Multiple Clinical Developments, and The Etiological and Pathological Relations between Influenza, Cerebro-Spinal Meningitis, and Pneumonia, both by Surgeon-Major Orion; Remarks on a Case of Fracture of the Skull with Contused Wounds of the Brain in a Soldier of the 17th Dragoons, by Surgeon-Major Frilet; Mémoire on Fractures of the Larynx, by Surgeon-Major Mitry; Improvised Medico-Chirurgical Exercises in the Bavarian Army, by Surgeon-Major Ecot; Psychoses caused by Auto-Intoxication of Intestinal Origin, by Assistant-Surgeon Labougle; On some Diseases Treated by Injections of the Chlorhydrate of Quinine with Analgesine, by Assistant-Surgeon Blum; History of an Epidemic of Jaundice among the Chasseurs d'Afrique, by Assistant-Surgeon Cordillot; and On the Transport of Wounded Soldiers in Mountain Warfare, and Description of a New Mountain Litter, both by Assistant-Surgeon Tostivint.

THE SANITARY INSTITUTE.

THE fifteenth Congress of the Sanitary Institute will be held at Newcastle-upon-Tyne from Sept. 2nd to 9th. A room for the issue of tickets will be opened at the College of Medicine on Tuesday, Sept. 1st, at 12 noon, and on the following days at 9 A.M. Those not connected with the Institute may for half-a-guinea obtain tickets admitting the holders to the presidential and other addresses, to all meetings, to the exhibition, and to any conversazione. On Wednesday, Sept. 2nd, there will be a reception of the members at 1 P.M. and a public luncheon at 1.30 P.M. At 3 P.M. the Duke of Cambridge, President of the Institute, will open the Health Exhibition at Olympia. At 8.30 P.M. Earl Percy will deliver an inaugural address in the College of Medicine. On Thursday, Sept. 3rd, from 10.30 A.M. to 2 P.M., the following conferences will be held:—Port Sanitary Authorities (Mr. Arthur Holt-Barber, President),

Medical Officers of Health (Dr. Alfred Hill, President), Municipal and County Engineers (Mr. Francis J. C. May, President), Sanitary Inspectors (Dr. George Reid, President), and Domestic Hygiene (the Mayoress of Newcastle, President). The Section of Sanitary Science and Preventive Medicine (Professor W. H. Corfield, President) will meet on Sept. 4th, the Section of Engineering and Architecture (Sir Andrew Noble, President) on Sept. 7th, and the Section of Chemistry, Meteorology, and Geology on Sept. 8th. The sections will sit from 10.30 A.M. to 2 P.M. each day, and the closing meeting will be held on Sept. 8th at 5 P.M. Saturday, Sept. 5th, and Wednesday, Sept. 9th, will be devoted to excursions. The exhibition will remain open till Sept. 26th.

AN UNSATISFACTORY INQUEST.

ONE of the coroners for Cheshire, if correctly reported in a newspaper cutting which has reached us, seems to have curious ideas as to the use of an inquest. He recently held an inquest at Audlem, near Nantwich, upon the body of a young unmarried woman who died after a confinement. She was attended by a midwife, but a medical man was called in after the birth of the child owing to some complications arising. He continued to attend the patient until her death and declined to give a certificate. Hence the inquest. The jury, as was to be expected, expressed a wish for the medical man to be called. The medical man described the complications which arose, and then (we quote from the newspaper report which we have received) the following scene occurred:—

"Upon the coroner suggesting that the jury should return a verdict of natural causes the foreman, Mr. George Beeston, a local tradesman, proceeded to ask a cross-examination, when the coroner, interrupting, said, 'the case is at an end.' The Foreman: No, it is not, sir. It is contrary to the feeling of the jury, and an outrage upon society, that a confinement should be undertaken without medical attendance.—The Coroner: That's another matter altogether. In all country places there are midwives. To the jury: You are all excepting your foreman agreed as to the verdict?—Several jurymen, rising: No, sir, we are not.—A juryman said Dr. Twyford ought to be allowed to say whether he understood the mother to say that complications had arisen.—Dr. Twyford: Can I reply to that question?—The Coroner: No; I don't think it is necessary.—A Juror: It seems that we are to shut up.—The Foreman: Is the doctor here to give evidence or not?—The Coroner: He has given evidence.—The Foreman: He has not answered the question, and we insist upon having an answer. (Applause from the jury.)—The Coroner: What do you want?—The Foreman: He has been asked a question, and we insist upon his being allowed to answer it. (The jury again applauded.)—The Coroner (to the jury): I hope you will not interfere in the conduct of these proceedings.—The Foreman: They are only confirming my attitude. I request this statement.—Dr. Twyford asked the coroner if he could reply? The Foreman: We are entitled to your statement.—The Coroner (to the doctor): You can answer if you like.—Dr. Twyford then made a statement, in which he said that the mother knocked him up at seven o'clock in the morning. He spoke to her through his bedroom window, and she said that her daughter had been confined, that it was all over, and asked him if he would call. Witness said he would call during the morning, and he did so. He found the girl in a collapsed condition, and in a very poor state indeed. He examined the girl, and it was his opinion that the slightest manipulation by a certificated midwife would have been sufficient. (Applause from the jury.) The midwife at that time had gone home, and he remarked to the mother, 'Why on earth has she left the girl in this state?'—The coroner read to the jury a verdict which he had prepared—viz., that the deceased died from natural causes, to wit, inflammation, but there was no evidence to show how the inflammation was produced.—The jury then signed the verdict."

We consider this most unsatisfactory. A coroner should not curtail a witness's evidence in this way, especially when the witness, as in this case, is the one whose evidence wholly, or nearly wholly, ought to direct the opinion of the jury. Neither do we see how inflammation, of which the cause is quite unknown, can be a "natural cause" of death.

STREET NOISES.

THE resources of civilisation occasionally seem to be afflicted with deadly ineptitude. We have a known and recognised nuisance of the worst kind in the perpetual yelling of newspaper boys. Residents in the Strand and other parts of London complain, pages have been written to the daily press, we have added our part to the unanimous chorus, and the Society for the Suppression of Street Noises has applied to the Home Secretary who refers them to his letter to the County Council. The Home Office says it can do nothing, the County Council says the same, and the police join in. Anyway the County Council which has done excellent work in improving sanitation, looking after lamps, &c., might pass a bye-law such as exists in Liverpool, i.e., "No person shall, for the purpose of hawking, selling, or distributing any newspaper or other article, shout, use any bell, gong, or noisy instrument in such a manner as to cause nuisance or annoyance to the residents or passengers." This would be an earnest of its desire to do something in the matter, for at present the Council adheres to the attitude of Giant Pope, who sat "in his cave's mouth grinning at pilgrims as they go by, and biting his nails because he cannot come at them." All newspaper hawkers should be made to pay for a licence. We are glad to see that the Middlesex County Council has taken a step in the right direction by passing a by-law of which the following is an abstract:—"No person shall sound or play any musical or noisy instrument or sing in any street within fifty yards of any dwelling house after being required by any constable or by any inmate of such house personally or by his servant to depart from the neighbourhood of such house. No person shall shout, or sing, or play any instrument within fifty yards of certain specified public buildings." These are good rules, but they do not deal with the newspaper nuisance. Not very long ago we counted between twenty-five and thirty newspaper hawkers around South Kensington Station who all yelled, and we consider this an intolerable nuisance.

CHARCOT'S JOINT DISEASE IN GENERAL PARALYSIS.

IN the *Charité-Annalen* for 1895 Dr. Westphal records the case of a woman aged thirty-eight years whose husband had suffered from tabes dorsalis and who herself had had symptoms of commencing general paralysis for a year. Examination revealed the usual signs and symptoms, but in addition there was arthropathy of the right foot and apparently also atrophy of the jaw and dropping out of the teeth. The left knee-jerk was active, but the right could not be obtained. The further progress of the case was marked by diminution of the left knee-jerk and by the evidences of an affection of the left foot similar to that occurring in the right, as well as by the development in the left big toe of a deep perforating ulcer. The case illustrates the close similarity between the physical conditions in some cases of general paralysis and of tabes dorsalis.

CONSCRIPTION GRIEVANCES.

ACCORDING to a well-known author and journalist the conscription would be a remedy for most of the bodily ills to which the youths of Great Britain and Ireland are heirs, or which they manufacture for themselves by objectless, indolent lives, and perhaps if the system were to be introduced into the United Kingdom it would be found to be not altogether an unmixed evil. The contingency, however, does not at the present moment appear to be at all probable, but if ever compulsory enrolment for military service does chance to become law the regulations in force on the Continent must not be adopted *en bloc* as there are many matters of detail that might with advantage be altered. It is almost universally the practice, for instance, to post up in public places long lists of conscripts in the order in which their names were drawn from the urns, and in the cases of those who are exempted from service for bodily infirmities the nature of the infirmity is plainly stated. Among the causes of rejection the following affections would seem to be the most common: varicocele, hernia, stuttering, deafness, ocular affections, nervous complaints, such as epilepsy and idiotcy, malformation of one or more members, and various

other diseases more or less grave which the young conscript is forced to reveal to the public by order of the authorities. A writer in a French medical journal draws attention to the injury likely to accrue to the young men in the future from this publication of their physical shortcomings. Not only may they thereby lose chances of employment, but their matrimonial prospects must likewise be seriously imperilled. If a private practitioner were to announce the diseases of his patients he would be justly blameable for violation of professional secrecy. The State most certainly ought to set a good example, more especially as no good purpose whatever is served by the present mode of procedure. A general phrase, such as "exempted for physical inaptitude," could surely be devised which would avoid betraying the conscript's secret. It is bad enough for the poor fellow to have to lay bare his defects before the members of the commission, to say nothing of the multitude of subordinates who are sure to be in attendance.

NOTIFICATION AT CREWE.

THE borough of Crewe has for many years presented the spectacle of a large and important town exposed in an exceptional degree to the importation of infectious disease, which has steadfastly declined to adopt the Notification Act. On numerous occasions has Mr. Herbert Jones, the energetic medical officer of health of Crewe, urged that the sanitary authority should take advantage of the channels of knowledge which are open to them, but on each occasion the proposal has been defeated or postponed upon some flimsy excuse. The authority were afraid of the expense, or perhaps they preferred to remain ignorant of the dangers in their midst, and, finally, after putting Mr. Jones to much trouble in ascertaining the average cost of notification in twenty-three towns, they still further postponed the matter on learning that such cost was but £35 per annum, the plea upon which it was this time postponed being that it would be best to wait until they had an isolation hospital erected. We are tempted to wonder whether the Corporation apply similar lines of argument to the control of fires, and whether they prefer to remain ignorant of all fires which occur until they have provided a fire engine. Possibly the hospital when provided will be too small or one fire engine insufficient. After this fresh defeat Mr. Jones returned again and again to the subject, and we are now glad to be able to record that on Aug. 5th the corporation decided to fall into line and to adopt this Act. We cannot congratulate Crewe on the alacrity with which it embraces fresh privileges in the matter of public health administration, but we do congratulate Mr. Jones upon the success of his labours, and we trust that the Corporation will not, in the event of the expenses exceeding £35, wish to rescind their resolution and to pull down their hospital. We would point out that hospital isolation is not the only use to which the knowledge acquired by notification can be put, but that it has its uses in the control of epidemics due to school influence, infected milk-supplies, &c.

BOURNEMOUTH AND ITS MEDICAL OFFICER OF HEALTH.

THE Corporation of Bournemouth is to be congratulated upon the fact that during 1895 the general death-rate of the town was, with the exception of Hornsey, the lowest of the English towns; and further, that for the six months ended June 30th, 1896, it amounted to an annual rate of but 12·4 per 1000. A reputation such as this is well worth acquiring and, if possible, maintaining, more especially when the large number of invalid visitors who tend to swell the death-rate of this famous health resort are taken into account. It is, however, regrettable that the Corporation, some members of which have, in all probability, profited materially by the continued low death-rate of the town, does not appreciate as it should the services and experience of their long-tried medical officer of health, who has done so much to maintain and improve the reputation of Bournemouth. As to what part Mr. Philip Nunn has had in maintaining this low death-rate it is profitless to discuss, but surely the Corporation will concede the point that during his many years of service he has taken a very active part in controlling and diminishing the prevalence of infectious disease. Indeed, in his annual report for 1894 Mr. Nunn puts on record the fact, that during the last eighteen years he has had to contend with no less than eight distinct outbreaks of small-pox, and in no instance did the disease, which was always imported, attain epidemic proportions. In return for this faithful service extending over so many years the Corporation is referred to in the Medical Directory as paying the medical officer of health the paltry sum of £175 per annum, and this for the responsibility of watching over a population of more than 51,000. This, however, is not all, as it has to be related that owing to the fees which the medical officer of health procures for the borough treasury through the granting of sanitary certificates, and the fact that the county council pays half the pittance referred to, the medical officer of health for Bournemouth actually costs the Corporation nothing. This is certainly a skilful commercial transaction, but we must say we should prefer to see the Corporation paying its medical officer of health an income more consistent with its dignity and the reputation of the town. Surely the Corporation cannot have sufficiently considered the responsibility and worry which necessarily devolve upon the medical officer of health of a place such as Bournemouth. Or is it that they regard a low death-rate as an indication that there is nothing for the medical officer of health to do? If enteric fever ravages the town and small-pox becomes prevalent therein, doubtless the income of the medical officer of health will be materially increased; but so long as he keeps outbreaks in check by rigid isolation and house-to-house inspection in invaded localities, it appears to be thought that his labours are but light and his responsibilities *nil*.

FILTRATION ON A LARGE SCALE BY THE PASTEUR METHOD.

THE evidence not only of exhaustive scientific investigation but of practical experience of the efficiency of the Pasteur filter as a real preventative of water-borne disease is ample justification for applying the method on a large scale, and nowhere could the first installation of this kind be better or more suitably applied than in India. The Pasteur filter has, it is well known, done excellent service in rendering water free from contagion for troops and other large bodies of men, and similar instances which prove the Pasteur filter to be a reliable appliance for the removal of pathogenic organisms from water are coming constantly to hand. The eminently satisfactory results in reducing to *nil*, soon after its introduction, the cases of typhoid fever in the French army afford a distinctly practical illustration of this kind. Equally effective has the Pasteur tube been in the case of cholera-infected water, and later we learn that after a tentative application of a small installation at the schools of Darjiling, in India, the dysentery which had prevailed amongst the pupils disappeared. This very encouraging and satisfactory result has doubtless led the municipal authorities of Darjiling, with the sanction of the Government of India, to apply to their waterworks the same method of filtration. An installation, we understand, has recently been completed for this purpose, and is shortly to be shipped to its destination. The

plant presents some important novel features in its design. Thus the inlet and outlet pipes are controlled by sluice valves in the ordinary way, and by means of a small air compressor the mechanical and bacterial soundness of each cell, or any group of cells, with their individual filter tubes, can be immediately tested. It appears that the minutest invisible flaw can be detected in this way, since such would readily permit the passage of air under a pressure of from 10 lb. to 15 lb. per square inch, while owing to the peculiar property of the medium (when soaked with water) of which the Pasteur tubes are composed no air could escape if they were sound. The clearing process is effected by means of a circulating pump, which forces water derived from a small boiler and slightly acidulated, through the cells, which effectually removes all deposit in the pores of the filter tube and at the same time sterilises the entire system. This process is by no means elaborate, nor is the quantity of acid required large, and the same acidulated water can be used again and again. The cost of running the installation will, it is said, be extremely moderate, involving only the attention of one man, who could, as a matter of fact, manage an installation of much larger size. Owing to the firmness of the medium of the tubes the wear amounts to practically nothing, and the cost therefore of maintenance will be relatively small. The installation for Darjiling is nominally expected to treat efficiently 150,000 gallons per day, but its output could be safely larger than this. The pressure of water acting by gravitation upon the tubes will be equivalent to a net head of about 60 ft. We congratulate the Darjiling municipality and the Indian Government upon adopting a method of purifying water which has been thoroughly tested and proved, and which has also been shown to entail but little trouble or skill, yet upon which the fullest confidence may be placed in serving to protect the community against those diseases which are known to be conveyed by the agency of a water-supply.

UNOBTRUSIVE BRAVERY.

ON August 5th a pleasure boat was overturned in the Thames at Surbiton, the occupants, a father, mother, and two children, being thrown into the river. The parents managed to hold on to the keel of the boat, from which they were subsequently rescued. Mr. N. C. Collier, medical officer of health of Hammersmith Parish, who happened to be rowing close by with his brothers, both also medical men, immediately dived into the river and saved the two children, who had disappeared. The children were taken on board their rescuers' boat by Mr. Mayo Collier and subsequently were landed on shore by the brothers who, we are informed, quietly rowed away as soon as possible. Nevertheless, the brave act did not pass unnoticed, as a paragraph in the *St. James's Gazette* headed "Gallant Rescues by a Doctor" testifies. Although it is evident that Mr. Collier was anxious to avoid any public recognition of his courage and promptitude, we feel that, the story having already appeared in print, he will permit us to record in THE LANCET our appreciation of his bravery.

CRUDE AND CORRECTED DEATH-RATES.

THE Registrar-General's decennial supplement recently issued again calls attention to and analyses in detail the marked effect of varying sex and age distribution on the death-rates of local populations. The mean annual death-rate in England and Wales during the ten years 1881–90 averaged 19·08 per 1000, and the mean crude or uncorrected death-rate in the several counties ranged during the same period from 15·29 and 15·52 in Surrey and Westmorland to 20·31 and 22·40 in London and Lancashire. It is now fairly well known that correction for varying sex and age distribution has the general effect of reducing the death-rate in rural populations, while it almost invariably raises the death-rate in urban populations. This signifies that rural populations contain an undue proportion of persons belonging to those age-periods during which high death-rates prevail; and that urban populations contain an undue proportion of persons at the ages when low death-rates prevail. As correction for varying sex and age distribution, therefore, reduces rural rates and raises urban rates, it follows that the range of corrected death-rates is far wider than that of crude death-rates. Thus while the range of crude county death-rates in 1881–90 was from 15·29 in Surrey to 22·40 in Lancashire and equal to 7·11 per 1000; the range of the corrected county rates was from 13·94 in Huntingdonshire to 24·19 in Lancashire, and equal to 10·25 per 1000. Taking 1000 to represent the corrected death-rate in Huntingdonshire, which is a distinctly rural county with a population of about 50,000, as a measure of actual mortality in a healthy community, the comparative mortality figure for Lancashire, with a population (to a very large extent urban) of nearly four millions, is 1735. Thus, in equal numbers living during the ten years, no fewer than 17 deaths occurred in Lancashire to 10 in Huntingdonshire, after due correction for the effect of different age and sex proportion in the populations. This excess of 74 per cent. in the Lancashire mortality approximately represents the proportional loss of life in that county due to the insanitary conditions under which its population still exists. An interesting example is given in the decennial supplement of the necessity for the use of corrected death-rates in order to provide a trustworthy basis for the comparison of the sanitary condition of different communities. Ten registration districts are referred to as showing almost identical crude death-rates—that is, ranging only between 19·78 and 19·90 per 1000; and it is pointed out that these rates, when corrected for difference of sex and age proportions, range from 16·60 to 21·88. The ten selected districts include five of a mainly rural character and five mainly urban, the result of the correction being, as we have seen, to reduce the rural rates and to raise the urban rates which causes the wide range in the corrected rates. The example is, perhaps, scarcely a legitimate one, as the death-rate in each of the selected rural districts is abnormally raised by the inclusion in each of a lunatic asylum. It serves, however, a useful purpose in showing the maximum amount of disturbance to death-rates due to abnormal variations in sex and age proportions. It is interesting to note that during the ten years 1871–80 the corrected annual death-rate was below 17 per 1000 in nine English counties, while in the more recent decennium the number of counties in which the corrected annual death-rate was below 17 had increased to 27. It further appears that while in 1871–80 the mean annual death-rate exceeded 20 per 1000 in 15 counties, there were but three counties in which this limit was exceeded in the ten years 1881–90—namely, in the West Riding of Yorkshire, London, and Lancashire. The county death-rates in 1881–90 were, without exception, lower than in the preceding ten years, but the order of the counties, ranged in accordance with their corrected death-rate from the lowest, was almost identical in the two decades. For instance, eight of the nine counties that headed the list in 1871–80 stand first in the list for 1881–90, and the same six counties stand at the bottom of the list both in 1871–80 and in 1881–90.

"GONOCOCCUS" PYÆMIA.

UNDER this title a paper by Dr E. Finger appeared in the *Wiener Klinische Wochenschrift*, 1896, p. 242. It is

generally acknowledged that many complications of gonorrhœa, such as arthritis, tenosynovitis, bursitis, periostitis, endocarditis, and pleuritis, are dependent upon the presence of gonococci, the organisms being carried from the point of local infection to distant parts. Yet it is not generally accepted as proved that the gonococcus rarely excites superficial inflammation of the mucous membranes, the micro-organism acting far more frequently as an exciter of metastatic inflammation and suppuration in company with pyogenic cocci, streptococci and staphylococci. Nevertheless, Shon and Schlaginhaufer have shown that the morbid processes produced by the gonococcus are not at all dissimilar in some respects to those caused by the pus cocci. The behaviour of the gonococci in, and towards, the affected tissues is, however, somewhat different from that of the pus cocci, in that the latter rapidly permeate the tissues and cause rapid breaking down of the same, whilst the gonococcus is least active and takes only paths of least resistance through the fissures and lacunæ of the epithelium and connective tissue. Again the reaction of the tissues is somewhat different. The inflammation caused by the gonococcus is entirely purulent; the formation of granulation tissue is early and abundant. All facts go to show that the gonorrhœic process tends to the formation of connective tissue and scars—in the urethra as stricture, in the prostate as destruction of the gland, in the suprarenals as thickening of the organs, and in the joints as ankylosis. Finally, the gonococcus is destroyed when exposed to a temperature of 103° or 104° F. for several hours, whilst the pus cocci are far less susceptible to such a temperature. From these considerations it follows, as has been already known clinically, that the gonococcus is less energetic in its action and is more easily destroyed than the pus cocci, and that the lesions produced by the former tend to run towards recovery more readily than those produced by the latter.

THE TRAVELLERS' AID SOCIETY.

LADY FRANCES BALFOUR writes to the *Times* to call attention to the dangers to which young women and girls are exposed by the want of a little forethought on the part of those who ought to arrange for their being met at the end of a journey. She quotes a case where a little girl aged eight had to wait for seven hours at a station. In some cases we suppose it is difficult for the traveller's friends to make certain of meeting her, but we take it that in that case an application to the Travellers' Aid Society would ensure some responsible person attending to meet the wayfarer. The manners and customs of the scoundrel are the same in all ages and, allowing for the difference between the stage waggon and a train, the scenes so eloquently depicted in the first plate of the "Harlot's Progress" are too frequently enacted at the present day.

CONTAMINATION OF OYSTERS IN FRANCE.

DR. CHANTEMESSE, of the Pasteur Institute, has been making investigations with regard to the spread of typhoid fever by oysters. Last February a small barrel of oysters was sent from Cette to an inland town in the department of the Hérault. These oysters were eaten raw by fourteen persons. Eight of these persons suffered from diarrhœa and sickness, but recovered in two or three days. Four other and younger persons were more severely affected, with dysenteric motions, very painful colic, and great and general prostration, lasting from fifteen to twenty days. The two remaining persons, a young woman aged twenty years and a young man aged twenty-one, suffered from a severe form of typhoid fever which in the case of the young woman ended fatally. The fourteen persons who ate the oysters lived in six different houses, no one but themselves suffered, and there had been no case of typhoid fever in the town for more than a year. At Cette there is a canal between the lake of Thau and the port. It passes through the town and receives the sewage from several houses. Yet oysters, placed in large cases, are often submerged in this canal. Dr. Chantemesse, on the strength of this experience, purchased, on the Paris market, a great variety of oysters. Bacteriological examination of these oysters revealed the presence of a number of special germs, notably the bacillus coli communis. Dr. Chantemesse placed some oysters in sea water which had been purposely fouled with typhoid dejecta. He examined these oysters twenty-four hours after he had withdrawn them from the contaminated water. They were perfectly fresh and of appetising appearance. The bacteriological examination showed, however, that the water in the shell and the oysters themselves contained the bacillus coli communis and Eberth's bacillus. Dr. Chantemesse therefore concludes that oysters before they are sent to market should be kept for at least a week in the sea and as far away as possible from all habitations. They might thus be freed from whatever impurities they have acquired in the oyster-beds that are situated too near rivers, canals, ports, or other sources of contamination.

HEMIPLEGIA WITH PARALYSIS ON THE SAME SIDE AS THE LESION.

IN a recent number of the *Neurologisches Centralblatt* appears an abstract of a short account published by Pineles in the *Wiener Klinische Rundschau* of a case of this character in which paralysis occurred on one side of the body and in which the lesion was found on the same side of the brain, and no anatomical peculiarity was found in the decussation of the pyramids to account for such a condition. The patient was a man aged forty-seven years, of intemperate habits, who was suddenly seized after a short period of headache with an apoplectic attack with right-sided paralysis, and succumbed from œdema of the lungs four days later. On examination there was found a hæmatoma of the dura mater on the right side, which had caused very marked flattening of the underlying convolutions on that side. Microscopic examination showed a normal condition of the crura and of the decussation of the pyramids. The writer of the paper regards the right hemiplegia as the result of circulatory disturbance and œdema of the brain conditioned by the hæmatoma, and he thinks that the paralysis of the limbs on the left side was probably masked by the occurrence of movements due to cortical irritation which were regarded as voluntary.

HEALTH OF SIR JOHN MILLAIS.

WE deeply regret to announce that Sir John Millais's condition is now regarded by his medical advisers as hopeless. The victims of malignant disease of the larynx are known sometimes to rally in a surprising manner, but our last report was so gloomy that it is possible that the President of the Royal Academy will have passed away ere these lines reach the eyes of our readers.

A "DARKEST ENGLAND" EXHIBITION.

THERE has just closed at the Agricultural Hall, Islington, one of the most remarkable exhibitions which has ever been held within its walls. To fully describe the exhibition in the brief space at our command would be impossible, and we must content ourselves by saying that the working of the whole scheme set forth in "Darkest England and the Way Out" was here shown in miniature. In addition to the rescue homes, métropoles, and crèches there was on view a completely equipped hospital for Salvation Army use, consisting of an out-patients' department, surgery, dispensary, hospital wards, and operation

room, which had been fitted up by Messrs. Burroughs and Wellcome, Messrs. Maw, Son, and Thompson, Messrs. George Farmiloe and Sons, Messrs. Willows, Francis, and Butler, and Messrs. Oppenheimer, the latter firm showing a selection of the old Roman surgical instruments which were exhibited at the meeting of the British Medical Association in London last year. It is not a matter for surprise that such a vast organisation as the Salvation Army should find it necessary to seek the aid of the medical profession in its work, but it seems to us that the medical staff is totally inadequate to the needs of the work, and we should like to see a still greater recognition of medical science in the social work of the "Army."

IN accordance with the votes of Convocation of the University of London, at the special meeting held on June 23rd, a Royal warrant has been issued nominating Mr. Walter Rivington, M.S., M.B., B.A., a Fellow of the University in the room of Mr. Richard Holt Hutton, M.A., LL.D., resigned. The next meeting of the Senate will probably take place in October.

AT a meeting of the governors of Addenbrooke's Hospital, Cambridge, on Monday last, it was announced that the Lord-Lieutenant had given £1000 to meet the expenses of constructing a new operating theatre. This is the third sum of £1000 which Mr. Peckover has presented to Addenbrooke's Hospital since he has been Lord-Lieutenant of the county.

THE garden party and Venetian fête given by the employés of Harrod's Stores, Limited, on Saturday last at Barnes, to celebrate the introduction of Saturday afternoon closing, and in aid of Guy's Hospital, has resulted in a total collection of £2,000. Two beds will, therefore, be endowed in perpetuity.

DR. SYDNEY STEPHENSON has been appointed by the Local Government Board an official inspector to examine the 20,000 children under the charge of Poor-law guardians in London with a view to the extirpation of ophthalmia from these schools.

ON Tuesday last in the House of Commons, on the motion of the Attorney-General, the order for the second reading of the University of London Commission Bill was discharged and the Bill was withdrawn.

MR. RICKMAN J. GODLEE, F.R.C.S., Eng., surgeon to University College Hospital, has been appointed surgeon to Her Majesty's Household in the room of Sir T. Spencer Wells, who has resigned his office.

DR. SAMUEL WILKS, F.R.S., the President of the Royal College of Physicians of London, has become a Vice-President of the Bethnal-green Free Library in place of the late J. Sir Russell Reynolds.

MEDICAL MAGISTRATE.—Mr. John Bell, L.R.C.P. Lond., M.R.C.S. Eng., of the Government Medical Department, Hong Kong, has been appointed a Justice of the Peace for the colony.

THE BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—The following gentlemen have been elected office-bearers for the ensuing year:—President: Dr. Wm. Milligan, Manchester. Vice-Presidents: Dr. J. Middlemass Hunt, Liverpool; Mr. F. Marsh, Birmingham; Mr. G. C. Wilkin, London. Council: Mr. George Stoker, *ex-officio*; Dr. Dundas Grant, Mr. Mayo Collier, Mr. Wyatt Wingrave, Dr. Hemington Pegler, Metropolitan. Dr. Jas. Davidson, Bournemouth; Dr. A. Bronner, Bradford, Extra-Metropolitan. Treasurer: Dr. Wm. McN. Whistler. Hon. Secs.: Mr. R. Lake, Mr. St. George Reid.

THOMAS WAKLEY,

THE FOUNDER OF "THE LANCET."

A BIOGRAPHY.[1]

CHAPTER XXXII.

The Newspaper Stamp Duties.—Wakley's Views on a Free Press.—Bulwer's Attitude towards the Question.—The Debate in the House.—Wakley defers his Motion for Repeal at the Request of the Chancellor of the Exchequer.—The Proposals of the Government.

"MR. WAKLEY gave notice that on March the 8th he would move for leave to bring in a Bill to allow Medical Witnesses their expenses for attending Coroners' inquests; on March the 15th he would move for the total repeal of the Stamp duty on Newspapers; on March the 20th he would move for the repeal of the Septennial Act."

This short item of Parliamentary news, extracted from *Bell's Weekly Messenger*, shows that Wakley took his position as a reformer very seriously and that he had no intention of allowing his activity and promises without the House to be followed by idleness and non-performance within its walls. Having safely piloted the Medical Witnesses Bill to harbour he immediately turned his attention to the Newspaper Stamp Act.

The taxation of newspapers, an impost that was first levied at the beginning of the eighteenth century, had grown gradually heavier and heavier, until in 1830, when Wakley's interest in politics had become serious and definite, it really amounted to what he and Hume invariably termed it—viz., a tax on knowledge. The first tax on newspapers was imposed in 1712, when it was enacted that all papers containing public news or intelligence were to be taxed at the rate of a halfpenny if printed on half a sheet of paper and a penny if on a whole sheet. The same Act imposed a tax of a shilling on any advertisement that appeared in a paper published weekly or more often. In 1776 the newspaper stamp duty was three-halfpence and in 1789 it had risen to twopence. The advertisement duty of a shilling was doubled in 1757 and in 1789 Pitt increased it by sixpence, making the duty half-a-crown on each advertisement. Again, in 1804 the newspaper stamp duty was raised to threepence-halfpenny and the duty on advertisements to three shillings and sixpence. In 1815 the newspaper stamp duty had become fourpence the advertisement duty remaining unabated, while the duty on paper (before printed) varied from threehalfpence to threepence per pound. In 1833, in consequence of agitation within and without Parliament, the advertisement duty was reduced to eighteenpence. Three years later a new and highly successful agitation against the impost was carried on, and with the story of this movement Wakley's name is closely associated. What he and others did at this juncture will now be detailed, though the results of their labours, as seen in the reforms of the next twenty-five years, can be set out in a few words. These results were that on Sept. 15th, 1836, the newspaper stamp duty was reduced to a penny on papers containing 1530 square inches, three-halfpence if above that and under 2295 square inches, and twopence if of the latter size or above. Again in 1853 the stamp duty was reduced to a penny for every sheet under 2295 square inches; but the advertisement duty was entirely abolished by an Act passed Aug. 4th, 1853. In 1855 the newspaper stamp duty was entirely abolished,

[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., XVII., XVIII., XIX., XX., XXI., XXII., XXIII., XXIV., XXV., XXVI., XXVII., XXVIII., XXIX., XXX. and XXXI. were published in THE LANCET, Jan. 4th, 11th, 18th, and 25th, Feb. 1st, 8th, 15th, 22nd, and 29th, March 7th, 14th, 21st, and 28th, April 4th, 11th, 18th, and 25th, May 2nd, 16th, 23rd, and 30th, June 6th, 13th, 20th, and 27th, July 4th, 11th, 18th, and 25th, and Aug. 1st and 8th respectively.

and on Oct. 1st, 1861, the paper duty was done away with, thus leaving newspapers free.

In this long story of increasing taxation and gradual remission by far the most important episodes were the two in which Wakley was actively concerned—viz., the agitation of 1833, which produced the reduction in the tax upon advertisements, and that of 1836 which resulted in an important and substantial remission of the stamp duty. The taxation had all been on the ascending scale before, but these two occasions marked the feeling of the country that a highly-taxed press was not creditable to a free nation; and on both occasions, within and without the House, Wakley was unrelenting in his endeavours to obtain remission of the burden upon the purveyors of news and knowledge.

His views on the subject were first communicated to the country at large in a speech to his constituents made in the Hall of Science, City-road, one week previous to the date on which he was announced to bring forward his motion in Parliament. The ostensible purpose of the assembly over which Wakley presided was to organise a petition to Parliament for the total repeal of the stamp duties on newspapers, but the real object that he had in convening the meeting was to make clear to the country the views on the subject of taxation of the press held by the man who was about to move the total repeal of the tax. The question was one that had a certain familiarity for his hearers because on each of the occasions that the tax had been made heavier the more enlightened of both parties in the country had clamoured against the impost and brought forward arguments to show that it was not the fiscal benefit that the various governments sought for the country in thus taxing the diffusion of knowledge, but really to muzzle a too critical press, and a press that was too prone to teach the people things which it was better for an unreformed Parliament that they should not know. Since the passing of the Reform Bill, moreover, the question of the newspaper stamp duties had been twice before the House. Once it had been brought forward by Joseph Hume, and on the second occasion, which was only a few months previous to Wakley's motion, by E. L. Bulwer, the distinguished novelist, afterwards successively Sir Edward Bulwer-Lytton, and Lord Lytton. Hume's motion was for the repeal of what was known as the "Trash Act," a piece of legislation designed by Castlereagh to check the licence of political pamphleteers, and in moving the repeal of that obnoxious Act, Hume's argument for a free press included a demand for the abolition of the newspaper stamp duties. Bulwer's motion was for a committee to inquire whether the newspaper stamp duties could not be advantageously reduced from fourpence to a penny, and his conduct in bringing forward the motion was severely criticised by the Radical press, whose party had entrusted him with a commission to move the *total* repeal of the tax. Bulwer did not, however, believe that such a motion had any chance of success, and desired to propose a compromise. This not being agreeable to his party he made his motion for a committee of enquiry to the disgust of the more ardent spirits. "Wakley will not play fast and loose with this subject," said Whittle Harvey's paper, "as did that sublime humbug, Mr. E. L. Bulwer. This latter gentleman did grossly disappoint and deceive us. Having declared in the House that he would not be a party to any compromise; that he would hear nothing about reduction, but have the total repeal or none at all—he had gained our implicit confidence. The friends of unstamped knowledge, beguiled by his pompous declamations, abandoned the question to his guardianship in the perfect assurance that he would either see the matter finally set at rest—in the only way it can—by a total repeal or else compel the recreant Whigs to incur eternal disgrace by opposing the motion in the teeth of all their past professions. How different the farce he enacted. Well, indeed, may the Whig-Radicals blush for their champion. After all his solemn *fanfarronade*—after all his high-coloured pictures of the vices of ignorance and the benefits of knowledge—after his magniloquent boasts that he would not even consent to a penny postage—the fire of his eloquence ends in the smoke of a hypocritical motion for a Committee to inquire whether it was possible to reduce the tax to one penny without injury to the revenue. Such was the sublime Bulwer's *finale*—just as though the affirmative of the inquiry had not been proved a thousand times over, and as though (were it even not proved) a question of such moment—one involving the intellectual emancipation of millions—ought to be treated as a paltry measure of finance." These are hard sayings, but men did not mince their words in the twenties and thirties, as has been amply shown by episodes already chronicled in this biography. Bulwer's motion was withdrawn and no harm was done to the cause.

It was, therefore, a threadbare topic to which Wakley addressed himself, but it was also a topic upon which the more thoughtful of the community had pondered much. His speech was devoted chiefly to showing very clearly that the reformers, in delegating to him this important motion, would not find in him a second Bulwer. He dwelt strongly on the fact that the fiscal side of the question was simply not worth considering compared with the immense moral benefits that would accrue from the repeal of the taxes on knowledge. If the people were resolved to do away with the taxes by standing on their undoubted right to receive without undue expenditure information upon the laws of the land by which they were judged and condemned, Wakley was certain that sooner or later—and probably sooner—the taxes would be remitted. The taxes brought the Government £450,000, and he begged his audience to consider, firstly, how paltry a sum this was to urge as a reason for the necessity of maintaining a tax upon the knowledge of the people, and secondly how self-confessedly feeble must that Chancellor of the Exchequer be who could not see any way of substituting for an odious tax some fairer impost that would bring to the revenue the small sum over which there was so much disposition to haggle. Next, Wakley warned his hearers against listening to any proposal for half-measures. He inveighed against the substitution of a lighter tax and against any measures proposing to include the postage rate in the duty on the paper or on its advertisements. Such projects he considered obscured the question at issue—which was, Ought not the people to get their information wholly and entirely free?—and split up the supporters of the general principle into the factious partisans of this or that. He concluded by warning his hearers against open violation of the law. He deplored the fact that unstamped newspapers had received popular support, saying that if the same measure of support had been given to the legitimate agitation as to the illegal dissemination of unstamped sheets the hands of the reformers would have been immensely strengthened in Parliament and it was possible that the people would already have obtained what they wanted

With his closing sentences his audience did not seem disposed to agree. Three men were at this time in prison for the publication of unstamped newspapers. They were Henry Hetherington, the publisher of the *Poor Man's Guardian*, a paper whose title-page bore the legend, "Published in Defiance of the Law to try the power of Right against Might;" John Cleave, the editor of the *Weekly Police Gazette* and the *Penny Gazette of Varieties;* and James Watson, an intimate associate

of the latter. In the eyes of the people these men had suffered for doing what the constitutional agitators had openly approved. Such men as Grote—the historian of Greece—and his friends Sir William Molesworth and Charles Buller, James Silk Buckingham—whose pockets had suffered severely from the suppression for political reasons of the *Calcutta Journal*—Joseph Hume, Edward Lytton Bulwer, Daniel O'Connell, Whittle Harvey, and Wakley, were known to hold this taxation of newspapers in abhorrence. How, then, could it be wrong for Hetherington, Cleave, and Watson to openly revolt by deed as well as word? Wakley thereupon treated his electors to a few extremely wise words upon the difference between lawless rebellion and constitutional agitation, not the least practical of his assertions being that the latter generally obtained its just demands, while the former must almost invariably stir up enmity to the best of causes among good citizens.

Wakley's declaration for a total repeal of the duties—to be obtained, however, by the employment of constitutional agitation only—was hailed with very general satisfaction. The press of the country were satisfied to leave this matter in his hands, and even the most extreme Radical wing of the party for whom the enterprising editor of the *Weekly Police Gazette* had an heroic appearance as long as he was serving the cause in durance, was content to wait calmly for the issue of Wakley's motion—his reputation for unflinching resolve as well as the public record of his career securing him from any imputation of weakness or half-heartedness, though he might deprecate, for politic or moral reasons open defiance of the existing law. With what was admitted on all sides to be a good cause, with a thorough knowledge of all the arguments that might be employed against him as well as of those that he might successfully advance, and with promises of substantial support within the House, Wakley confidently expected success for his motion and this fortunate issue was anticipated by all his friends and co-workers. But the events of March 15th did not fulfil these happy hopes. Wakley and Whittle Harvey having presented numerous petitions on behalf of the repeal of the newspaper stamp duties, chiefly from the metropolitan constituencies, the Chancellor of the Exchequer, Mr. T. Spring Rice, suggested that Wakley should consent to allow him to state what were the intentions of the Government in the matter and should defer the discussion on his own motion till such a time as the subject of the stamp duties on newspapers was before the House in the financial statement for the year. Wakley consented to adopt this course, and the House having resolved itself into Committee, the Chancellor of the Exchequer proceeded to explain the views of himself and his colleagues on the Treasury Bench. He said that it was his intention to propose the consolidation into one Act of all the Acts imposing stamp duties of any description which at that time were distributed over 150 statutes, some relating to England, some to Scotland, and some to Ireland, without order or method, and exhibiting a farrago of legislation in which the most subtle lawyer frequently found himself entangled. He could not hold out to the honourable member for Finsbury, for whom he entertained feelings of the greatest respect, a promise to come forward with any proposition for a total repeal of the newspaper stamp duty. Such a reform was not in accord with his own feelings and the public service would not be promoted by it. The State undertook the duty of conveying newspapers free of postage to all parts of the country, therefore a certain proportion of the stamp duty should be regarded as payment for services rendered rather than as a tax. Again, he considered free newspapers would work unfairly towards the dweller in the country who would have to pay carriage-rates to obtain his information, while the urban dweller would be equally posted in the march of events with nothing to pay for the privilege. He intended, therefore, to propose that there should be a stamp duty of one penny on a newspaper instead of fourpence. He promised that he would listen to all arguments from the junior member for Finsbury and would make the best case that he could against the extreme step of a total repeal of the taxes, if the House on their side would go with him to the extent that he had already indicated in an attempt to deal with what he confessed to be a crying evil. He concluded by congratulating Wakley on his recent public utterances when he warned those of his way of thinking against supposing that he would ever sanction breaches of the existing law.

Duncombe and Wakley both said a few words pledging themselves to continue their efforts for total repeal, while Hume congratulated the Chancellor of the Exchequer on his proposals "as far as they went." Bulwer seized the opportunity to point out to the House that they were now agreeing with great unanimity to the very reform which he himself had previously advocated, when his action had drawn down upon him continued and bitter attacks for his love of compromise. He was told that his suggestion had constituted a breach of faith with those who had committed their interests to him, and he could not refrain from pointing out that in the hands of the honourable Member for Finsbury the proposal for total repeal of the duties had only resulted in obtaining the same concession that he (Bulwer) had asked for.

(To be continued.)

THE TWELFTH INTERNATIONAL MEDICAL CONGRESS AT MOSCOW:

PROVISIONAL PROGRAMME OF THE SURGICAL SECTION.

THE following preliminary programme of the proceedings in the Surgical Section of the International Medical Congress, to be held in Moscow from Aug. 19th to 26th, 1897, has been forwarded to us by Sir William MacCormac:—

1. The Treatment of Infected Wounds. (Dr. Braatz, Königsberg.)
2. The Non-operative Treatment of Malignant Growths and the Results of Serum-therapy.
3. Results of the Operative Treatment of Cerebral Tumours and of Jacksonian Epilepsy. (Professor von Bergmann, Berlin.)
4. Surgery of the Lungs, with special reference to the Treatment of Tuberculous Cavities and of Pulmonary Gangrene. (Professor Tuffier, Paris.)
5. Treatment of Cancerous Stricture of the Œsophagus, Pylorus, and Rectum, with the results obtained. (Professor Czerny, Heidelberg.)
6. Gonorrhœal and Syphilitic Affections of Joints. (Professor Ollier, Lyons.)
7. The Principles of Construction of Different Forms of Protheses (Artificial Apparatus) for the Lower Limb: Diseases of Joints, Paralytic Affections, Congenital Dislocations of the Hip after Amputations. (Professor Dellinger, Budapest.)

These are the subjects that will be under discussion, and Sir William MacCormac desires us to give notice that abstracts of all communications to be made to the meeting should be sent to Moscow, addressed to the secretaries of the Surgical Section, by Jan. 1st, 1897.

THE SOUDAN CAMPAIGN.

SINCE our last report the outbreak of cholera in the Nile Expeditionary Force has shown signs of abatement. The latest accounts are much more satisfactory, although fears about recrudescences of the epidemic cannot, of course, be altogether allayed. It was thought that the late rains might lead to a recurrence of cholera manifestations in the force, but this has happily not been the case. With the exception

of Akasheh, where there were some fresh cases of cholera on the 3rd instant, the health of the troops is reported to be satisfactory in this respect. There have been several cases of enteric fever among the European part of the force, some of which have proved fatal, and cases of dysentery have likewise occurred; still, considering the great heat, the dust storms, and occasional heavy falls of rain, the health of the British troops has been very satisfactory. The latest cholera returns from Egypt, which do not, however, include the bulk of the Egyptian army, no returns being furnished by the War Office beyond Sarras, show that in three days there were 418 cases and 347 deaths. Five of the deaths occurred at Alexandria, 6 in Cairo, and 8 at Damietta and the suburbs.

The progressive advance of cholera up the Nile during the present epidemic has been a noteworthy feature. The disease has proceeded from Assouan to Korosko, from Korosko to Halfa, and thence to Ambigol Wells, Akasheh, and Kosheh. The latter station has lately been visited by furious storms of rain and dust, which gave rise to a good deal of inconvenience and discomfort in the camp. Apart from the more satisfactory accounts in regard to cholera, the best military news of the week from the Nile force is that which tells of the completion of the railway to Kosheh. The Nile seems to be rising more slowly than usual, but it is rising.

ARMY MEDICAL SCHOOL, NETLEY.

TERMINATION OF THE SEVENTY-SECOND SESSION.

ON July 31st the Commander-in-Chief paid his first official visit to the Royal Victoria Hospital. Arriving at Netley at about 2.30 o'clock he proceeded to the officers' mess, where he unveiled a portrait of Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I., making in connexion with the function a kind, sympathetic, and graceful utterance, to which Sir Joseph Fayrer made an excellent reply. The portrait, which is a really fine work, was subscribed for by the officers of the Army Medical Staff, the Indian Medical Service, and other friends as a testimonial of Sir Joseph Fayrer's great services. It was painted by Mr. Sydney P. Hall and is placed in the ante-room of the Army Medical Staff mess, where it will in future hang with the portraits of the former professors of the Army Medical School. Before being delivered at Netley the picture was taken to Marlborough House by command of the Prince of Wales, who pronounced it to be an excellent and faithful likeness.[1]

After lunching with the officers of the Army Medical Staff Lord Wolseley proceeded to the lecture theatre of the Army Medical School, where a large and distinguished company assembled to meet him. The gathering was presided over by Surgeon-Major-General C. H Giraud, Principal Medical Officer at Netley, who extended a hearty welcome to the Commander-in-Chief. The following were among those present: Lieutenant-General J. Davis, C.B., and his aide-de-camp, the Director-General of the Army Medical Department (Surgeon-Major-General Jameson, M.D.), Surgeon-Major-General Markey, C.B., Brigadier-General the Hon. H. Crichton, Surgeon-Major-General Hooper, I.M.S., Sir Joseph Fayrer, Bart., K.C.S.I., Sir William MacCormac (President of the Royal College of Surgeons of England), Dr. Allchin, Surgeon-Major-General W. Webb, Colonel Walters, and the military and nursing staff of the Royal Victoria Hospital.

Brigade-Surgeon-Lieutenant-Colonel J. Lane Notter, M.D., secretary of the Senate of the Army Medical School and Professor of Hygiene, read the report of the examiners, who stated that the work of the session had been most satisfactory and that a high tone had prevailed in the school. He mentioned that all the twenty-six surgeons on probation had proved themselves fitted to hold Her Majesty's commission and that in general ability they were, as a whole, of fair average. Their conduct while passing through the school had been excellent.

Lord Wolseley, in presenting the prizes,[2] congratulated the winners, and called attention to the remarkable part played in the army by the medical staff. He said the account which they had just heard read describing the proceedings and results of the session's studies and duties performed there was, he thought, most satisfactory. It told them of a well-conducted institution and a well-conducted school of medicine, while the prizes that had been given away showed to all who took an interest in the school that the subjects which were taught—well taught—there had been well studied by those who had had the advantage of being surgeons-on-probation at the hospital during the past session. It was now some seven or eight years since he had had the pleasure of being there, and he then had sufficient time at his disposal to go over the hospital and see for himself the various schools where the sciences were taught and of inspecting the institutions connected with the hospital. He had every reason to suppose that they were in quite as good a condition now as they were then, when he was extremely pleased with all that he saw. Another opportunity might be afforded him of coming to Netley, when he should be able to again see for himself the great institution in which so many, he might say all, the present medical department of the army had been educated. It was, he need hardly say, a great pleasure to him to come to an institution of that character. During the course of a long military career he could most conscientiously say that some of the greatest friends he had had in the army had been medical officers. During one period of service in Canada he lived for five years with one of the most distinguished men who had ever worn uniform—he meant Sir William Muir, who took such a deep interest in the school and all that was taught there. He learnt from him at that time all that he then knew of the medical department. He had been helped on many occasions by medical officers. He had been ill himself, and had learnt to appreciate the great value of their services and to admire their great devotion to duty and their determination to maintain the credit of the great profession to which they belonged under all and under most trying circumstances. A great many years in the early part of his life were spent in learning and acquiring the art of destruction—the art of how best to kill Her Majesty's enemies in all parts of the world, and in teaching the young men associated with him the same. When he viewed the objects of their profession he could not help feeling how much more noble they were than those of what he might call the fighting part of the profession. As they went out to their duties he could assure them that they would find that no man appreciated the services of officers—certainly of the medical officers—of the army more thoroughly than the private. He was extremely grateful for every kindness, and he would remind them that no body of men in the army were more capable of doing acts of kindness than the medical officers of Her Majesty's service. When he thought of that building he could not help remembering the two men to whom he thought they were mostly indebted for it. He knew them both well and had the greatest admiration for them. He was referring to Dr. Parkes and Sir Thomas Longmore. The name of Dr. Parkes called to his mind the book which he wrote on Hygiene, which when it first appeared created quite a revolution in that science, not only in the medical service, but throughout the various parts of Her Majesty's dominions. It was their duty, not only to heal disease, but to do their best to prevent it, and Dr. Parkes was the first man to show them how disease might be kept away from their barracks. Dr. Parkes had passed away from them, but his memory would always be fresh in the minds of those studying there, and his name would be remembered in the army so long as the hospital continued to exist. Members of their profession had not only been distinguished for their medical services. He had on many occasions seen some of the greatest acts of heroism performed by gentlemen of the department; and if he was asked to name a dozen of the very bravest men he had ever met he should have to include two or three who had been in the medical department. He would name one at once, because he saw him quite lately. Perhaps they had heard of Sir Robert Jackson. He was with him for a long time; and if he had to lead a storming party to-morrow he did not know any man he would sooner have with him than his friend Dr. Jackson. He went to Lucknow with his regiment, and the senior medical officer of the battalion was equally brave and won the Victoria Cross on the occasion. There were many acts performed by medical officers which deserved to be recorded on any pages of history devoted to heroism. He related the dying act

[1] Sir Joseph Fayrer's portrait has been reproduced by Mr. H. Hanfstaengl, fine art publisher, of Pall-mall East, of whom copies may be obtained by the subscribers to the testimonial.

[2] A list of the surgeons on probation who were successful at both the London and Netley examinations will be found on page 407 of our issue of Aug. 8th.

of Surgeon-Major Landon, who, when lingering under what proved to be a fatal gunshot wound, asked the enemy, into whose hands a batch of wounded had fallen in an unfortunate expedition to prop him up while he injected morphia into a soldier who had been seriously wounded in order to relieve his suffering. After which service he fell back and expired in half an hour. Such an act as that should be talked of and read of in the medical school and should be known throughout the army. In conclusion he begged to wish them the best fortune in the profession in which they had embarked and to hope that he might have during the remaining portion of his life many opportunities of meeting them again.

Surgeon-Major-General Jameson briefly thanked Lord Wolseley for distributing the prizes and the interesting proceedings were then brought to a close.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A MEETING of the Committee of the Association of Fellows of the Royal College of Surgeons of England was held on the 7th inst. at 25, Grosvenor-street, W., Mr. Timothy Holmes, Vice-president, being in the chair. The minutes of the last meeting were read and confirmed. The following resolution was then proposed, seconded, and carried unanimously: "That the best thanks of the committee of the Association of Fellows be accorded to Mr. George Pollock for coming forward as the candidate of the Association at the College election on July 2nd, 1896."

A discussion then arose with respect to the election of direct representatives of the profession on the General Medical Council and whether it would be expedient for the Association to identify itself with the support of the claims of any particular candidate. In view of the pressing questions relating to the reform movement at the Royal College of Surgeons of England, together with the efforts which were being made to redress the professional wrongs suffered by Mr. R. B. Anderson as a Fellow and Member of the College in which the whole profession was concerned, the proposition was made that Mr. Walter Rivington, Vice-president of the Association, Member of the Council of the Royal College of Surgeons of England and of the Senate of the University of London, should be invited to come forward as a candidate, and that the Society of Members of the College should be asked to join in this invitation.

Mr. Holmes put forward this general proposition in the shape of three resolutions. They were seconded by Mr. F. J. Gant and carried unanimously, and the honorary secretary was instructed to forward a copy thereof to the Society of Members of the College.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On an outbreak of "Fever" at Penrhynside, by Dr. BRUCE LOW.—Penrhynside is a village in the Conway rural district about two miles from Llandudno, and between September, 1895, and February of this year there were thirty-nine cases of "fever" in twenty-one houses and six deaths, the population being estimated at 500. And even this did not include the whole outbreak, for it was found that persons had sickened after leaving the village, and some of these were traced by Dr. Low. Considerable interest attaches to this outbreak by reason of its varying clinical features. The majority of the cases must be regarded as attacks of enteric fever of more or less severity; but the unusual symptoms met with, and which seemed at one time to denote cerebro-spinal meningitis and at another epidemic influenza, must be regarded as justifying a doubt as to the nature of the illness, especially on the part of those who only saw isolated attacks with preponderance of unusual features and exceptional eruptions. These clinical variations are discussed at some length by Dr. Low, as is also the question of different infections running concurrently in the same patient; but he arrives at the conclusion that the outbreak must be looked upon as one of enteric fever. Coming next to the question of causation, he attributes it to water-supply. Owing to a scarcity in the public service, which has since been remedied, the villagers resorted to "spouts" below the village. Now the springs supplying these spouts are subject to be mingled with the soakage from the thin layer of superficial soil on which the village stands, and which by reason of faulty sanitation was much polluted. One resident, indeed, stated that "the village reeked from end to end" when the outbreak commenced; and not only so, but enteric fever was imported about three weeks before the outbreak; and the story goes to show how easily an epidemic is set in motion directly the filth of accumulated neglect receives its specific stimulus and has access to water. Sewerage has now been decided on, and the decision has come none too early; for it is doubtless due in part to the prevailing filth that so many multiple attacks and secondary attacks occurred in households. Penrhynside owes its outbreak to another piece of negligence. Had the first case been isolated the outbreak would, doubtless, never have occurred, and had the first batch of attacks been isolated the epidemic would not have been spread over several months. But the Conway rural council had failed to make provision for the immediate isolation of any infectious sick, and the attempt to replace this by a nursing staff could not prevent the outbreak, whilst it revealed features which are, we trust, not often found under such circumstances. We can understand the mischief which arose when the nurses were absent on their visiting tours by reason of the patients being supplied with improper food and by the infectious excreta being cast into privies; but it is not often we read that stimulants supplied for the sick were drunk by others, and that these others were members of the same family who are aptly described as "heartless relatives." The episodes of this epidemic will, we trust, teach a lesson. Some remedial measures have already been adopted; but this district will, after such an experience, be grievously, even culpably, deficient unless some means are kept in actual readiness for the immediate isolation of a few first attacks of infectious fever, whether imported or not.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Wimbledon Urban District.—The Wimbledon Hospital for Infectious Diseases is apparently a far from attractive building. Owing to the presence of certain disagreeable odours in different parts of the building Mr. Mayne, the inspector of nuisances, was instructed to make a survey of the premises. He reports that it stands upon a wet site near the sewage farm, the fall of the ground in the last being from the farm towards the building. Beneath the large ward are cellars in which were found three cesspools, two containing "stagnant water and one liquid sewage. The odours in the cellars from decomposing woodwork and the cesspools were most offensive." In another part of the report we read that "the whole building is in a very dilapidated state; the roofs are leaky and rainwater finds an entrance in many places. The hospital fails in every way to come up to what is required as an habitable building." It is only fair to relate that when the report was presented to the sanitary committee they immediately ordered the hospital to be closed and the patients to be transferred to an iron building. Active steps seem to have been taken for the provision of a better and well-isolated site for the erection of a proper hospital. The medical officer of health, Mr. E. Pocklington, reports that one of the private schools in his district was found grossly overcrowded, the floor area for occupants being 5·8 square feet and the cubic space 48·9 feet. The school was closed.

Aberdeen Urban District.—Dr. Matthew Hay reports that measles is at the present time non-existent in Aberdeen, and he observes that the proper time to take effectual preventive measures against the spread of the disease is when that disease is at a low ebb. The sanitary department of the city is, Dr. Hay points out, willing to give every assistance in suggesting and carrying out necessary precautions; but in the case of measles all effort must be to a large extent unavailing without the hearty coöperation of the citizens and officials. A ward at the city hospital is kept in readiness for the reception of measles, and Dr. Hay expresses a hope that the parents will readily consent, when necessary, to removal. It should be borne in mind, Dr. Hay remarks, even if the postponement of an epidemic means an epidemic of larger dimensions when it

arrives, that such postponement heightens the average age of those attacked and thus tends to diminish the fatality-rate.

Willenhall Urban District.—Mr. J. T. Hartill reports that in 1895, during an epidemic of measles, his experience with regard to the effect of school closure was on the whole favourable, but, as he observes, without the information to be derived from notification this is a difficult point to decide. Mr. Hartill insists upon the desirability of procuring the thorough cleansing of all the elementary schools once a month, but the school managers have not yet acted upon this suggestion. The Willenhall District Council appear to have purchased an inefficient disinfecting apparatus and to have declined to accept the medical officer of health's advice upon the subject. It appears to us that no disinfecting apparatus is better than a bad one, inasmuch as such an apparatus gives rise to a false sense of security, and places the medical officer of health in a position which is an obviously unfair one.

Stretford Urban District.—Mr. W. J. Heslop reports that the offensive condition of the Manchester Ship Canal which obtained in 1894 was much improved during the latter half of last year, and he expresses a hope that the efforts of the Rivers Pollution Committee in regard to the upper reaches of the Irwell will have the effect of still further improving the condition of the Canal.

Guisborough Union Combined Districts.—Dr. W. W. Stainthorpe has gone very thoroughly into the distribution and behaviour of enteric fever in some of his districts in 1895, and as a result of his observations during the year he concludes: (1) that the disease is more highly infectious than is generally supposed; (2) that it tends to recur in houses where ordinary closets and ashpits are in use; and (3) that in the interest of the public health it is exceedingly desirable that every case should be efficiently isolated. The combined districts are very badly off in the matter of isolation accommodation, the Guisborough urban and rural and the Redcar and Saltburn districts being without such accommodation. Dr. Stainthorpe's efforts to bring about combination for the purpose of isolation have, we regret to hear, so far failed.

West Hartlepool Urban District.—Dr. S. Gourley reports that during 1895 there were notified in this district (population 50,020) 62 cases of enteric fever. No common cause could be discovered, but the cases occurred chiefly in the south side of the town, where the houses have been built on foundations of "made soil." No suspicion rested upon the water-supply. Public abattoirs have now been erected in the district and Dr. Gourley expresses a hope that all meat will now be killed and dressed there. Nine carcasses affected with tuberculosis were condemned during 1895.

Barnsley Urban and Rural Districts.—Dr. M. T. Sadler in his annual report furnishes figures to show that the incidence of enteric fever in houses supplied with old-fashioned privies and ashpits is much in excess of that in houses with water-closets, and he concludes that the privy system has much to do with the spread of typhoid fever. The same disparity of incidence was observed for diarrhœa, and after allowing for the fact that the privy-served population includes the poorer classes, Dr. Sadler considers that the present system of excrement disposal in Barnsley is responsible for much of the infantile mortality from diarrhœa. In the Barnsley rural district report an outbreak of enteric fever is narrated by Dr. Frank Sadler, son of the medical officer of health, in which the evidence pointed strongly to infected privies as having been the means of disseminating the disease.

Waltham Holy Cross Urban District.—Mr. J. Damer Priest calls attention in his annual report to the difficulties and dangers which are apt to arise from the fact that the provisions of the Notification Act do not apply to Crown buildings. He points out that there are thirty-seven inhabited buildings which belong to the Government in Waltham, and remarks that although Government employés are prohibited from working during the prevalence of infectious disease in their houses, this fact does not protect the outside public.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 5728 births and 4456 deaths were registered during the week ending Aug. 8th. The annual rate of mortality in these towns, which had been 24·8 and 24·4 per 1000 in the two preceding weeks, further declined last week to 21·4. In London the rate was 21·1 per 1000, while it averaged 21·6 in the thirty-two provincial towns. The lowest rates in these towns were 13·2 in Burnley, 14·5 in Blackburn, 14·6 in Bradford, and 15·6 in Huddersfield; the highest rates were 24·7 in Wolverhampton and in Salford, 25·5 in Hull, 27·5 in Preston, and 29·5 in Birmingham. The 4456 deaths included 1202 which were referred to the principal zymotic diseases, against 1593 and 1560 in the two preceding weeks; of these, 844 resulted from diarrhœa, 117 from measles, 86 from whooping-cough, 73 from diphtheria, 43 from scarlet fever, 39 from "fever" (principally enteric), and not one from small-pox. The lowest death-rates from these diseases were recorded in Halifax, Huddersfield, Swansea, and Birkenhead, and the highest rates in Brighton, Wolverhampton, West Ham, Birmingham, and Hull. The greatest mortality from measles occurred in Oldham, Derby, Brighton, and Nottingham; from scarlet fever in West Ham; from whooping-cough in West Ham and in Hull; from "fever" in West Ham and in Wolverhampton; and from diarrhœa in Sheffield, Bolton, Birmingham, Brighton, Wolverhampton, and Hull. The 73 deaths from diphtheria included 54 in London and 7 in Birmingham. No fatal case of small-pox was registered in any of the thirty-three large towns. There were 22 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 8th inst., against 40, 37, and 28 at the end of the three preceding weeks; 5 new cases were admitted during the week, against 6 and 0 in the two preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 3369, against 3161, 3207, and 3279 on the three preceding Saturdays; 366 new cases were admitted during the week, against 320, 321, and 360 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 153 and 142 in the two preceding weeks, were again 142 last week, and were 40 below the corrected average. The causes of 59, or 1·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Cardiff, Bradford, Newcastle-upon-Tyne, and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·3 and 17·6 per 1000 in the two preceding weeks, further declined to 15·4 during the week ending Aug. 8th, and was 6·0 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 11·5 in Edinburgh and 11·8 in Greenock to 17·1 in Paisley and 17·7 in Glasgow. The 449 deaths in these towns included 39 which were referred to diarrhœa,, 16 to measles, 13 to whooping-cough, 5 to scarlet fever, 4 to "fever," and 3 to diphtheria. In all, 80 deaths resulted from these principal zymotic diseases, against 110 and 93 in the two preceding weeks. These 80 deaths were equal to an annual rate of 2·7 per 1000, which was 3·1 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 57 and 41 in the two preceding weeks, further declined to 39 last week, of which 30 occurred in Glasgow and 5 in Edinburgh. The deaths referred to measles, which had been 26 and 33 in the two preceding weeks, declined to 16 last week, of which 14 occurred in Glasgow and 2 in Edinburgh. The 13 fatal cases of whooping-cough showed an increase of 3 upon the number in the preceding week, and included 6 in Glasgow and 4 in Paisley. The deaths from scarlet fever, which had been 3 in each of the two preceding weeks, rose to 5 last week, of which 2 occurred in Glasgow and 2 in Leith. The 4 fatal cases of "fever" showed a decline of 2 from the number in the preceding week, and included 3 in Glasgow, where 2 of the 3 deaths from diphtheria were also recorded. The deaths referred to diseases of the respiratory organs in these towns, which had been 61 and 68 in the two preceding weeks, further rose to 70 last week, and slightly exceeded the number in the corresponding week of last year. The

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON—JULY, 1896.

(Specially compiled for THE LANCET.)

Sanitary Areas.	Estimated population in the middle of 1896.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	**4,421,955**	**31**	**2960**	**1372**	**5**	**276**	**13**	**27**	**584**	**6**	**5274**	**12·4**	**1**	**312**	**87**	**236**	**270**	**3**	**37**	**1**	**1616**	**2563**	**6·0**	**9229**	**21·8**	**313**
West Districts.																										
Paddington	124,838	1	123	24	—	4	—	3	13	—	168	14·0	—	9	3	3	4	—	1	—	23	43	3·6	196	16·4	311
Kensington	170,660	1	120	50	—	9	2	—	30	—	212	13·0	—	16	6	10	8	—	1	—	33	74	4·5	306	18·7	319
Hammersmith	104,551	—	55	13	1	1	1	1	11	—	83	8·3	—	4	2	2	2	1	—	—	41	52	5·2	199	19·3	322
Fulham	115,008	—	62	23	—	5	1	2	13	1	112	10·2	—	13	1	3	6	—	—	—	84	107	9·7	312	28·3	504
Chelsea	96,657	—	75	65	—	12	—	—	8	—	160	17·3	—	5	—	14	3	—	—	—	30	52	5·6	204	22·0	351
St. George Hanover-square	80,041	—	43	11	—	6	—	—	3	—	63	8·2	—	—	2	1	1	—	—	—	9	13	1·7	91	11·9	128
Westminster	53,477	1	34	6	—	9	—	—	6	—	56	10·9	—	1	3	1	1	—	2	—	13	21	4·1	106	20·7	360
St. James Westminster	22,955	3	9	3	—	—	—	—	2	—	17	7·7	—	2	—	—	—	—	—	—	3	5	2·3	31	14·1	109
North Districts.																										
Marylebone	141,114	1	126	31	—	7	—	1	24	—	190	14·0	—	7	2	11	7	—	2	—	32	61	4·5	290	21·4	237
Hampstead	75,812	—	23	21	—	4	2	—	4	—	54	7·4	—	6	2	5	3	—	—	—	6	22	3·0	96	13·2	193
St. Pancras	241,066	1	128	41	—	25	—	1	36	—	232	10·0	—	21	4	4	25	—	3	—	110	167	7·2	566	24·5	364
Islington	337,639	12	216	142	—	11	1	—	41	—	423	13·1	1	13	9	23	29	—	3	—	73	151	4·7	569	17·6	238
Stoke Newington	33,615	—	15	5	—	—	—	—	3	—	23	7·1	—	1	—	—	4	—	—	—	13	18	5·6	48	14·9	230
Hackney	213,774	—	160	54	—	17	—	—	29	—	260	12·7	—	10	3	10	7	—	5	—	116	151	7·4	426	20·8	357
Central Districts.																										
St. Giles	38,168	—	27	5	—	1	—	—	6	—	39	10·7	—	8	3	—	1	—	—	—	5	17	4·6	78	21·3	258
St. Martin-in-the-Fields	13,603	—	12	—	—	3	—	1	1	—	17	13·6	—	1	1	—	1	—	—	—	3	6	2·4	16	12·8	200
Strand	25,820	—	16	3	—	1	—	—	2	—	22	9·6	—	2	—	—	—	—	1	—	4	7	3·1	50	21·9	264
Holborn	30,932	—	18	4	—	2	—	—	8	—	32	10·8	—	—	—	1	4	—	—	—	11	16	5·4	83	28·0	434
Clerkenwell	66,195	1	48	26	—	6	—	—	8	—	89	14·0	—	2	—	4	8	—	1	—	50	65	10·2	178	28·0	436
St. Luke	41,478	—	37	9	—	5	—	—	7	—	58	14·6	—	—	4	—	—	—	—	—	29	33	8·3	116	29·9	314
City of London	31,409	—	46	11	—	2	—	—	5	—	64	21·3	—	1	1	3	—	—	—	—	5	10	3·3	67	22·3	182
East Districts.																										
Shoreditch	122 265	—	76	41	—	12	—	—	17	—	149	12·7	—	15	3	11	6	—	2	—	83	120	10·2	347	29·6	409
Bethnal Green	129,151	—	125	59	—	11	1	2	32	—	230	18·6	—	15	1	8	1	—	1	—	62	88	7·1	293	23·7	304
Whitechapel	78,886	—	80	34	—	6	—	—	10	—	130	17·2	—	10	1	1	1	—	1	—	18	32	4·2	162	21·4	204
St. George-in-the-East	47,389	—	35	29	—	—	—	—	9	—	73	16·0	—	7	2	3	3	—	—	—	25	40	8·8	151	33·1	251
Limehouse	58,347	2	36	30	—	3	—	—	11	—	82	14·7	—	3	1	5	6	—	1	—	23	39	7·0	146	26·1	314
Mile End Old Town	111,226	—	89	50	—	6	—	1	25	—	181	17·0	—	8	5	5	9	—	1	—	55	83	7·8	278	26·1	317
Poplar	169,379	—	107	80	—	20	2	1	26	—	236	14·5	—	15	4	11	9	—	2	—	84	125	7·7	386	23·8	359
South Districts.																										
St. Saviour Southwark	25,276	—	14	13	—	1	—	—	3	—	31	12·8	—	—	—	4	3	—	—	—	14	21	8·7	63	26·0	468
St. George Southwark	60,301	—	46	20	—	5	—	2	6	—	79	13·7	—	2	—	8	7	—	—	—	32	49	8·5	161	27·8	374
Newington	121,191	—	97	52	—	8	—	1	19	—	177	15·2	—	9	1	6	2	—	1	—	68	87	7·5	315	27·1	465
St. Olave Southwark	11,673	—	7	5	—	—	—	—	—	—	12	10·7	—	1	—	—	1	—	—	—	4	6	5·4	30	26·8	273
Bermondsey	85,508	—	45	30	—	3	—	—	15	—	93	11·3	—	6	3	10	6	—	—	—	24	49	6·0	204	24·9	285
Rotherhithe	40,432	—	19	6	—	1	—	1	15	—	42	10·8	—	1	1	1	4	—	—	—	12	19	4·9	84	21·7	252
Lambeth	296,036	—	211	67	1	18	1	2	26	5	331	11·7	—	25	6	11	21	1	3	—	85	152	5·4	578	20·4	289
Battersea	165,864	1	103	37	—	8	—	2	21	—	172	10·8	—	29	—	7	15	—	2	1	90	144	9·1	407	25·6	405
Wandsworth	188,908	—	101	20	—	5	—	3	22	—	151	8·3	—	11	1	5	12	—	1	—	60	90	5·0	308	17·0	293
Camberwell	253,975	7	118	128	3	12	—	2	32	—	302	12·4	—	4	4	22	17	1	3	—	85	136	5·6	508	20·9	309
Greenwich	176,203	—	115	64	—	11	—	1	16	—	207	12·2	—	15	4	11	11	—	—	—	52	93	5·5	394	23·3	313
Lewisham (excluding Penge)	83,795	—	34	15	—	5	—	—	9	—	63	7·8	—	3	—	4	4	—	—	—	21	32	4·0	133	16·6	238
Woolwich	41,334	—	27	10	—	2	1	—	5	—	45	11·4	—	3	1	2	5	—	—	—	8	19	4·8	104	26·2	281
Lee	38,714	—	21	3	—	2	—	—	2	—	28	7·5	—	2	2	1	6	—	—	—	9	20	5·4	65	17·5	267
Plumstead	59,610	—	51	24	—	5	1	—	3	—	84	14·7	—	6	1	5	7	—	—	—	12	31	5·4	84	14·7	160
Port of London	—	—	—	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 25 cases of membranous croup.

† Including deaths from membranous croup.

causes of 23, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·7 and 27·4 per 1000 in the two preceding weeks, declined again to 24·0 during the week ending Aug. 8th. During the past six weeks of the current quarter the death-rate in the city has averaged 25·5 per 1000, the rate during the same period being 22·0 in London and 15·2 in Edinburgh. The 161 deaths registered in Dublin during the week under notice showed a decline of 23 from the number in the preceding week, and included 38 which were referred to the principal zymotic diseases, against 43 and 31 in the two preceding weeks; of these, 29 resulted from diarrhœa, 4 from whooping cough, 3 from "fever," 2 from diphtheria, 1 from measles, and not one either from scarlet fever or small-pox. These 38 deaths were equal to an annual rate of 5·7 per 1000, the zymotic death-rate during the same period being 5·8 in London and 2·1 in Edinburgh. The fatal cases of diarrhœa, which had been 39 and 22 in the two preceding weeks, rose again to 29 last week. The deaths from whooping-cough, which had been 3 in each of the three preceding weeks, rose to 4 last week. The mortality from "fever" slightly exceeded that recorded in the preceding week, while the 2 fatal cases of diphtheria corresponded with the number in the preceding week. The 161 deaths in Dublin last week included 50 of infants under one year of age, and 31 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons were below those recorded in the preceding week. Two inquest cases but no deaths from violence were registered; and 44, or more than a fourth, of the deaths occurred in public institutions. The causes of 11, or nearly 7 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JULY, 1896.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during July in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 12·4 per 1000 of the population, estimated at 4,421,955 persons in the middle of this year. In the three preceding months the rates had been 7·5, 9·2, and 10·3 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in St. George Hanover-square, St. James Westminster, Hampstead, Stoke Newington, Lewisham, and Lee; while they showed the largest excess in Chelsea, City of London, Bethnal Green, Whitechapel, St. George-in-the-East, and Mile End Old Town The prevalence of small-pox in London during July showed a marked decline; the 31 cases notified included 12 in Islington, 7 in Camberwell. 3 in St. James Westminster, and 2 in Limehouse sanitary areas. The Metropolitan Asylum Hospitals contained 23 small-pox patients at the end of July, against 10, 15, and 30 at the end of the three preceding months; the weekly admissions averaged 6, against 4 and 10 in the two preceding months. The prevalence of scarlet fever in London showed a marked further increase upon that recorded in recent months; this disease was proportionally most prevalent in Paddington, Marylebone, St. Martin-in-the-Fields, St. Luke, City of London, Bethnal Green, Whitechapel, Mile End Old Town, and Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 3170 scarlet fever patients at the end of July, against 2464, 2614, and 2795 at the end of the three preceding months; the weekly admissions averaged 399, against 208, 273, and 310 in the three preceding months. The prevalence of diphtheria in London during July showed a slight further increase upon that recorded in the two preceding months; among the various sanitary areas this disease showed the highest proportional prevalence in Chelsea, Bethnal Green, St. George-in-the-East, Limehouse, Poplar, and Camberwell. There were 699 diphtheria patients under treatment in the Metropolitan Asylum Hospitals at the end of July, against 713, 703, and 704 at the end the three preceding months; the weekly admissions averaged 114, against 89, 95, and 111 in the three preceding months. The prevalence of enteric fever in London showed a marked increase upon that recorded in recent months; this disease was proportionally most prevalent in Chelsea, Westminster, St. Martin-in-the-Fields, St. Luke, and Poplar sanitary areas. Erysipelas was proportionally most prevalent in Holborn, Bethnal Green, Limehouse, Mile End Old Town, and Rotherhithe sanitary areas. The 27 cases of puerperal fever notified during July included 3 in Paddington and 3 in Wandsworth sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas, the deaths occurring in the institutions of London having been distributed among the different sanitary areas in which the patients had previously resided. During the five weeks ending Saturday, August 1st, the deaths of 9229 persons belonging to London were registered, equal to an annual rate of 21·8 per 1000, against 18·7, 17·2, and 16·1 in the three preceding months. The lowest death-rates during July in the various sanitary areas were 11·9 in St. George Hanover-square, 12·8 in St. Martin-in-the-fields, 13·2 in Hampstead, 14·7 in Plumstead, 14·9 in Stoke Newington, and 16·4 in Paddington; the highest rates were 27·8 in St. George Southwark, 28·0 in Holborn and in Clerkenwell, 28·3 in Fulham, 29·6 in Shoreditch, 29·9 in St. Luke, and 33·1 in St. George-in-the-East. During the five weeks of July 2563 deaths were referred to the principal zymotic diseases in London; of these, 1616 resulted from diarrhœa, 312 from measles, 270 from whooping-cough, 236 from diphtheria, 87 from scarlet fever, 37 from enteric fever, 3 from typhus, 1 from an ill-defined form of continued fever, and 1 from small-pox. These 2563 deaths were equal to an annual rate of 6·0 per 1000; among the various sanitary areas the lowest death-rates from these diseases were recorded in St. George Hanover-square, St. James Westminster, Hampstead, St. Martin-in-the-Fields, Strand, and City of London; and the highest rates in Fulham, Clerkenwell, Shoreditch, St. George-in-the-East, St. Saviour Southwark, St. George Southwark, and Battersea. Only one fatal case of small-pox was registered in London during July; this belonged to Islington sanitary area. The 312 deaths referred to measles exceeded by 26 the corrected average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease showed the highest proportional fatality in Fulham, St. Giles, Shoreditch, Whitechapel, St. George-in-the-East, and Battersea. The 87 fatal cases of scarlet fever were 11 below the corrected average number; this disease showed the highest proportional fatality in Westminster, St. Giles, and St. Luke sanitary areas. The 236 deaths from diphtheria were 60 above the corrected average number; this disease showed the highest proportional fatality in Chelsea, Shoreditch, Limehouse, St. George Southwark, Bermondsey, Camberwell, and Plumstead sanitary areas. The 270 fatal cases of whooping-cough exceeded by 56 the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Holborn, Clerkenwell, St. George Southwark, Woolwich, Lee, and Plumstead. The 37 deaths referred to enteric fever were slightly below the corrected average number; the mortality from this disease showed no marked excess in any of the sanitary areas. The 1616 fatal cases of diarrhœa were as many as 525 above the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Fulham, Clerkenwell, St. Luke, Shoreditch, St. Saviour Southwark, and Newington. In conclusion, it may be stated that the mortality in London during July from these principal zymotic diseases was nearly 40 per cent. above the average, owing principally to the excessive fatality of summer diarrhœa.

Infant mortality in London during July, measured by the proportion of deaths under one year of age to registered births, was as high as 313 per 1000, and considerably exceeded the average. Among the various sanitary areas the lowest rates of infant mortality were recorded in St. George Hanover-square, St. James Westminster, Hampstead, St. Martin-in-the-Fields, City of London, and Plumstead; and the highest rates in Fulham, Clerkenwell, Shoreditch, St. Saviour Southwark, Newington, and Battersea.

MR. AND MRS. LEOPOLD DE ROTHSCHILD have sent a further donation of £20, and Lieutenant-Colonel Draffen a donation of £50 towards the charitable work of Ings House Nurses' Coöperation, 81, New Bond-street, W.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-CAPTAIN T. H. F. CLARKSON has assumed Medical Charge of women and children at Stanhope Lines, Aldershot; Brigade-Surgeon-Lieutenant-Colonel R. de la Cour Corbett, D.S.O., has been ordered to Ireland for duty; and Brigade-Surgeon-Lieutenant-Colonel M. D. O'Connell has been placed under orders to embark for India.

The undermentioned Surgeon-Lieutenants to be Surgeon-Captains:—Charles G. Spencer, M.B., F.R.C.S. Eng., Charles E. P. Fowler, F.R.C.S. Eng., Thomas H. J. C. Goodwin, Harry E. B. Porter, Alfred E. C. Keble, Arthur J. Lattey, Denis J. Collins, M.B., St. John B. Killery, Herbert C. French, Walter W. Smith, William P. Barter, Ernest M. Williams, James R. McMunn, and John B. Anderson.

INDIA AND THE INDIAN MEDICAL SERVICES

Surgeon-Major W. F. Thomas has been appointed to act as District Medical and Sanitary Officer and Superintendent of Gaol, Madura. Surgeon-Major Wyatt has been transferred from the Poona District to the Bombay District, and Surgeon-Captain Thacker from the Bombay District to the Poona District. Brigade-Surgeon-Lieutenant-Colonel S. M. Salaman is appointed to act as Inspector-General of Registration and Stamps *pro tem.*

NAVAL MEDICAL SERVICE.

The following appointments are notified:—Staff-Surgeon G. Kirker, M.D., to *Imperieuse*, additional for Esquimalt Hospital. Surgeons: A. H. H. Vizard to the *Crescent*; H. Huskinson to the *Excellent*; G. E. Kennedy to the Plymouth Division of R.M.L.I.; and G. McGregor to be lent to Yarmouth Hospital.

VOLUNTEER CORPS.

Royal Engineers: Submarine Miners: The Tay Division: Surgeon-Lieutenant G. O. C. Mackness, M.B., to be Surgeon-Captain. *Rifle:* 3rd (Cambridgeshire) Volunteer Battalion the Suffolk Regiment: Cecil Edward Stephens, M.B., to be Surgeon-Lieutenant. 1st Volunteer Battalion the Royal Welsh Fusiliers: Richard Drinkwater, gent., to be Surgeon-Lieutenant. 2nd Volunteer Battalion the York and Lancaster Regiment: Surgeon-Lieutenant C. C. Moxon to be Surgeon-Captain. 2nd (Renfrewshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant A. Donald to be Surgeon-Captain.

THE WIDESPREAD PREVALENCE OF ENTERIC FEVER IN INDIA.

The *Pioneer Mail* of July 22nd again directs attention to the increasing prevalence of enteric fever among the British garrison of India, declaring that it is a far more important and fatal disease than cholera as far as British troops are concerned, except when a really severe epidemic of the latter occurs. The disease is widespread, it affects the hills as well as the plains, and it figures prominently in the returns of troops on field service, as in the late Chitral campaign for instance. In the hill sanataria and the station cantonments of the plains it annually gives rise to a grievous amount of sickness and mortality, although the water-supply may to all appearances, according to our contemporary, be absolutely pure. The whole question of the sterilisation of the drinking-water supplied to the British soldier is now engaging the attention of the Indian Government.

THE SOUDAN EXPEDITION.

There is but little to chronicle in regard to this expedition beyond the gratifying fact that there appears to be a cessation of cholera among the troops composing the Anglo-Egyptian Nile force. The cholera returns as regards Egypt itself, however, recently showed an increase. The total number of fresh cases for two days throughout Egypt was 395 and 336 deaths were registered. There were some fatal cases at Cairo and Alexandria and a considerable number at Kench Town and in Girgeh Province. The reports from Kosheh are satisfactory as to the health of the troops, notwithstanding the great heat and prevalence of dust storms, with occasional heavy falls of rain. The graver forms of disease among the expeditionary force consist of dysentery, typhoid fever, and other forms of fever.

THE MEDICAL SERVICES IN INDIA.

Our Indian contemporary, the *Times of India*, of July 24th contains a leading article on "The Medical Outlook in the Army," in which the prospect is not represented as an exhilarating one. Among other things it is suggested, with a considerable amount of force and truth, that if the Civil Medical Service be abolished competition for the Indian Medical Service will cease. Well-educated European medical men will not, it is contended, go to India to devote themselves to the weary round of native regimental hospitals and to encounter the hard work of war "in order to preserve for native practitioners the serene enjoyment of the best emoluments of peace."

FIELD SERVICE RATIONS AND CLOTHING FOR INDIAN TROOPS.

The *Times of India* states that the Government of India has sanctioned the appointment of a committee of six officers, of whom not less than three, including the president, are to be medical officers, to inquire into, and report upon, the present scale of field service rations and clothing for native troops and followers. Surgeon-Colonel G. Thompson, I.M.S., has been appointed president.

THE INDIAN TROOPS AT SUAKIN.

Reports from Suakin state that the Indian troops have escaped cholera, but have suffered somewhat from dysentery. Taken as a whole, however, their health has been very good. It is rumoured that half the troops at this station will return to India during the ensuing cold weather unless prevented by any unforeseen action on the part of the Khalifa's forces.

THE AMEER OF AFGHANISTAN.

The latest news from Cabul states that the Ameer is enjoying good health.

The Leeds and Glasgow Companies of the Volunteer Medical Staff Corps have been undergoing their annual training at Netley. The strength amounted to sixty-six non-commissioned officers and men. They arrived at Netley on Aug. 2nd, and quitted it on the morning of the 9th inst. The Companies paraded with the Medical Staff Corps, and the men were assigned the usual routine duties at the Royal Victoria Hospital.

The death is announced of Surgeon-Major Henderson, civil surgeon at Saugor in the Central Provinces.

Correspondence.

"Audi alteram partem."

"THE RELATIVE STRENGTHS OF DIPHTHERIA ANTITOXIC SERUMS."

To the Editors of THE LANCET.

SIRS,—The period that has elapsed since your last issue has given me time to ascertain what records I have of the tests to which the various issues of antitoxic serums referred to in your report were subjected before sending out. I find that in all cases the antitoxin was tested by myself before it was sent out, that the details of the experiments and their results have been preserved by me, and that they contradict the results published by you as having been obtained by your Commissioners. I will give two instances. Table No. XIV. in your Commissioners' Report is as follows:—

Quantity of antitoxin given.	Weight of guinea-pig.	Local reaction.	Living.	Dead.
$\frac{1}{10}$ c.c.	300 grms.	Marked swelling.	—	48 hours.
$\frac{1}{5}$ c.c.	280 ,,	,,	—	3rd day.
$\frac{1}{5}$ c.c.	250 ,,	,,	7 days.	—
$\frac{1}{10}$ c.c.	265 ,,	None.	7 ,,	—

The test made by me of the same serum at the time is as follows:—

Dose of serum, Dec. 5th, 1895.	Weight of guinea-pig.	Reaction.	Died after.	Living after.	Dose of toxin.
$\frac{1}{10}$ c.c.	303 grms.	Swelling.	7 days.	—	1 c.c.
$\frac{1}{20}$ c.c.	290 ,,	Slight swelling.	—	7 days.	,,
$\frac{1}{30}$ c.c.	317 ,,	Nil.	—	,,	,,
Control.	310 ,,	—	2 days.	—	0·1 c.c.

Your Commissioners' results correspond to a strength of 3 normal units per c.c. My results show the strength to have been about 70 normal units per c.c. Table XIX. in your Commissioners' report is as follows:—

Quantity of antitoxin given.	Weight of guinea-pig.	Local reaction.	Living.	Dead.
$\frac{1}{10}$ c.c.	250 grms.	Marked swelling.	—	40 hours.
$\frac{1}{40}$ c.c.	285 ,,	,,	—	36 ,,
$\frac{1}{100}$ c.c.	250 ,,	,,	7 days.	—
$\frac{1}{1}$ c.c.	200 ,,	Distinct swelling.	7 ,,	—
$\frac{1}{0}$ c.c.	200 ,,	None.	7 ,,	—

The test made by me of the same serum at the time is as follows:—

Dose of serum. Date. May 5th, 1896.	Weight of guinea-pig.	Reaction.	Died after.	Living after.	Dose of toxin.
$\frac{1}{15}$ c.c.	325 grms.	Swelling.	4 days.	—	0·2 c.c.
$\frac{1}{30}$ c.c.	310 ,,	,,	—	6 days.	,,
$\frac{1}{50}$ c.c.	290 ,,	(?) Swelling.	—	6 ,,	,,
$\frac{1}{100}$ c.c.	299 ,,	Nil.	—	6 ,,	—
Control.	360 ,,	—	53 hours.	—	0·02 c.c.

The whole of the above tests were made by me personally and not by any assistant. The toxin was examined in every case by control tests, and the whole experiment was conducted with the greatest care. I think I may say without fear of contradiction that there are very few persons, if any, in this country who have had so great an experience in this type of experiment or who have worked more continuously at the subject of antitoxin. My methods are known to the profession and no one has attacked them. I am, therefore, in a position to say that I *know* that the results obtained by your Commissioners are incorrect. I do not accuse them of any intentional error, for I am aware how much experience and practice it takes to avoid mistakes in these investigations as to the quantitative value of antitoxin, and I am convinced that whoever the gentlemen may be who made the actual experiments they have not had the same amount of practice that I have had or their results would have been far different.

But it may be said, "Have I a right to expect my testimony to be accepted as decisive in a matter where I am personally attacked?" Certainly not, if the assailant is willing to have the matter decided by an independent tribunal. This I have challenged you to do and you have refused. I am, therefore, entitled to appeal to my own tests of the same serum, which I, in my own name, assure the members of my profession were made with all the skill and care of which I am capable, and I have little doubt as to the relative weight which they will attach to such a statement made by one whom they know, and who speaks under a full sense of his responsibility, as against the ridiculously different results alleged to have been arrived at under like circumstances by persons whose names they do not know and of whose experience and authority in such matters they cannot judge.

I am, Sirs, yours faithfully,

Devonshire-street, W., Aug. 5th, 1896. T. J. BOKENHAM.

*** From this communication it would seem that Mr. Bokenham fails to grasp the main question at issue in our Commissioners' report on the relative strengths of diphtheria antitoxins. This is indicated by his statement of the question as one in which he is "personally attacked." As a matter of fact, the report consisted of an almost bald statement of the relative strengths of the antitoxins on the market, frequently with scarcely a single word of comment. The experiments, as was repeatedly stated in the report, were carried out for the purpose of determining the relative strengths of the antitoxins on the British market, and the results obtained must in this respect be accepted as accurate; they show that the serum (fluid) prepared under Mr. Bokenham's supervision contained on an average 8½ normal units per c.c., as against an average of 158 units per c.c. in Behring's serum. Under these circumstances it is simply preposterous for Mr. Bokenham to attempt to explain the results obtained by our Commissioners as due to their want of experience and practice in estimating the antitoxic value of curative serums, since this would involve merely a fractional error, whereas the error postulated in the cases quoted would be a tenfold or even a twentyfold one. The position now taken up by Mr. Bokenham that we have refused an independent tribunal, and that, accordingly, his testimony must be accepted as having superior weight to that of our Commissioners, and his apparent assumption, based thereon, that the matter can be allowed to rest there, can scarcely, we think, be taken seriously. We have, so far from discouraging the idea of an "independent tribunal," stated in our report that duplicate sealed samples of all the more recent serums purchased had been retained for such independent examination, and in our leading article published on Aug. 1st we placed these unreservedly at the disposal of Messrs. Burroughs, Wellcome, and Co. It appears to us that Messrs. Burroughs, Wellcome, and Co. owe it to their well-merited reputation for drugs that this question should be placed on some more satisfactory footing; and this can only be done by having the sealed samples tested by some independent recognised bacteriological expert, whose report when published would claim the full confidence of the medical profession.—ED. L.

"THE GENERAL MEDICAL COUNCIL: CRITICS AND CANDIDATES."

"Tibi responsum, id accipe, lege atque pensa idem, cum ratio est."

To the Editors of THE LANCET.

SIRS,—Mr. Brudenell Carter has written you a very long, somewhat caustic and argumentative letter, written ostensibly to probe the hopes, the intentions and the capabilities of the candidates for the shortly vacant seats in the General Medical Council; but is it not rather an epistle vindicating the policy of that learned and dignified assembly, which evidently in Mr. Carter's opinion not only has done much good but needs no reform and was never intended to protect the interests either of the medical profession or even that of the public?

Fain would I reply seriatim to Mr. Carter's letter, but I am aware of the great pressure on your columns, and I feel reluctantly compelled to answer only those paragraphs that more especially apply to myself. Mr. Brudenell Carter writes: "I ask Dr. Alderson to condescend to *particulars* and to tell us in what manner his presence, or that of any other person, in the General Medical Council, would assist in obtaining the required amendments. What could he do in this direction if in the Council which he cannot do simply as Dr. Alderson to-morrow?" Why, Sirs, this to me appears to require no answer, for the reply is self-evident. As a unit I can do nothing. I am utterly powerless—not only the unknown and unrecognised quantity, but the inappreciable atom. *In the mere attempt* I am in danger of being considered "an

agitator, a dangerous person." If I brought these matters before my friend, our member, General Goldsworthy, he would tell me that Parliament leaves all these questions to the Privy Council and the Privy Council leaves them all to the General Medical Council. Now, as a possible member of the General Medical Council I believe that the *fitting* opportunity would occur to ventilate these questions, and, moreover, I think that I should have a patient hearing and if the Council has not the power to redress the grievances under which a great profession groans and suffers the public will in due time see that it obtains the power.

And now a word of explanation as to the physical examination that I have proposed (and which Mr. Carter is inclined to treat as a joke), or rather suggested, for this did not appear in my original address (vide *Medical Press*, July 22nd), but in an addendum and upon which I am anxious to obtain *the opinion of the profession*, as I have mentioned in my paper on the Overcrowding of the Profession—which I read, or was supposed to have read, at the late meeting of the British Medical Association in Carlisle and which I believe will be shortly published—should be passed *prior* to registration as a medical student. The State demands a physical examination for the Army and Navy, for the civil service, and even this latter examination I know from experience is both severe and thorough. What the State does for the public services I suggest might be done in the interests of and for the public good, and at the same time in a measure relieve the much overcrowded state of the medical profession. Mr. Brudenell Carter is, I think, of vigorous and wiry frame and I hope not often ill, but let him visit a foundry on a hot and dusty day and have the misfortune to get a small atom of iron dust in his eyes, or in the cornea; a doctor is sent for, and the surgeon who respond fails from *defective vision* even to diagnose the cause of the inflammation or, if diagnosed, is unable, by imperfect eyesight, to remove the foreign body *secundum artem*. Again, how many cases are there of initial pneumonia, either septic or catarrhal; of pericarditis; and of pleurisy that remain, at least in the early stage, undiagnosed and consequently inappropriately treated, and valuable time is lost because the doctor from *defective hearing* has never recognised—indeed, has never once heard—a pneumonic or pleuritic crepitus or a cardiac friction? Again, too, I argue that it is at least somewhat unpleasant if you are attacked suddenly with spasm or colic or any acute pain, and is, in fact, serious if suffering agony in an isolated village or country town, from a strangulated hernia, and you send an urgent message to the only surgeon in the place, if you find that he is suffering from *another* bad attack of his asthma and is obliged to avoid night air, or that he does not dare to go out on a foggy day.[1] There is, I think Mr. Carter will admit, more in this suggestion of thus relieving the hurtful tension of the overcrowded ranks than may at first appear.

With regard to the protection that appears to be given to the profession in Section 31 of the Medical Act, it would require much more space to go into than I dare ask of your kind indulgence; suffice to say that this clause in the Medical Act grants permission to recover costs for medical attendances and for medicines by medical men practising in our colonies, and without any intimation of any future liability to prosecution or persecution for an unsuccessful attempt to obtain the benefit of this section of the Medical Act. This at all events is the opinion of the Earl of Stamford, Mr. Timothy Holmes, Mr. Gant, and other well-known medical men who have spent considerable time and money in the attempt to obtain redress for undoubted wrongs endured by a F.R.C.S. and with whom we must all heartily sympathise. And, finally, may I inform my candid friend that I am both by inheritance and conviction a conservative—a liberal conservative perhaps—but ready for reform by constitutional measures when convinced of its need.

In conclusion, it is not without thought and much conversation with my friends that I seek this honourable distinction of a seat as a Direct Member in the General Medical Council, and, if elected—Mr. Carter will excuse this tautology,—it will be with a deep sense of responsibility that the election will involve upon me. By myself I am painfully aware that I can accomplish nothing, and that it is far from my power in any way to alter the policy of the General Medical Council. The Council will reform itself under the light of advancing public opinion; and if I am able with the help of practical and learned colleagues to, in the slightest degree, hasten this needed reform I shall yet accomplish my object in the interest of the profession that I love and in whose interest I am proud to serve.

Much as I should have liked to have replied at full length, and to have completely answered Mr. Brudenell Carter's criticisms contained in his interesting letter of last Saturday, I must reluctantly conclude.

I am, Sirs, yours truly,

Aug. 10th, 1896. FREDERICK H. ALDERSON, M.D. St. And.

[1] I well remember one foggy November—now some years ago—sending by request to a well-known physician, now deceased, requesting a consultation in an urgent case of septic phlegmasia dolens, who felt obliged to postpone the consultation for two days on account of an attack of asthma, to which he was often subject, to the disappointment of the patient, the annoyance of the husband, and the causing of additional anxiety to myself.

To the Editors of THE LANCET.

SIRS,—Mr. Carter, in his letter to you of the 8th inst., writing in defence of the General Medical Council first insults his professional brethren the general practitioners, next misrepresents the terms of the Medical Act, 1858, and finally, after exposing some of the ridiculous points in Dr. Alderson's election address, indulges himself by styling, without offering reasons, the views of Dr. Drage and myself upon the undue powers of the President of the General Medical Council as "balderdash." As to the insults and remarks on direct representation the profession will merely note them as peculiarly characteristic of Mr. Carter's method and put them aside since, being only the representative of the Apothecaries' Hall, he cannot be adequately held responsible for his utterances.

As regards the Medical Act, 1858, having been recently obliged to expose in the *Medical Magazine* the unfortunate want of knowledge of that measure exhibited by a late member of the General Medical Council it certainly did not appear likely that the same lack of information would be so soon displayed by another "corporate representative."

I only venture to ask for space to deal with two matters arising out of Mr. Carter's letter—namely, firstly, one of the numerous hiatuses in his account of the Medical Acts and, secondly, to invite Mr. Carter on behalf of Dr. Drage and myself, to "come to close quarters" on the little paper I ventured to read at Carlisle, and to which, I regret to say, he refers in such unfeeling terms.

As regards the Medical Act, Mr. Carter in enumerating the powers and duties of the General Medical Council altogether fails to mention the fact that the Council has had for thirty-seven years very great power to protect the profession by prosecuting quacks under Section 40 and he omits to add, also, that by Section 42 the Council is endowed with the esteemed privilege of receiving the penalties obtained by such prosecutions. In his anxiety to obscure this very straightforward matter and to thereby excuse the Council for their grave neglect of this duty Mr. Carter makes the following unpardonable misrepresentation of the Act. He says: "The Medical Acts not only contain *no* powers for the suppression of unqualified practice, but they expressly recognise it."

Knowing the methods of argument usually adopted by the defenders of the present General Medical Council it is necessary to closely observe the wording of this statement. Firstly as to the word "recognise." Mr. Carter uses it with a certain duplicity of meaning which the word unfortunately bears. In one sense no doubt those who drafted and passed the Act "recognised" the existence of unqualified practitioners—that is to say, they observed the advertisements of quacks and possibly even tasted their wares; but Mr. Carter wishes apparently to convey to your readers, with no little audacity, that the Legislature extended its "recognition" as far as tacit approval of quackery. His ground for this "bold advertisement" of the quacks is that the words "unqualified practitioners" occur in the preamble of the Act; but he does not go on to say, as he should, that these words are there inserted to define a class of persons whom, in the opinion of the Legislature, the public should carefully avoid in much the same way as they would thieves or murderers.

However, Mr. Carter, who seems to hold a brief for the "great unqualified" is so exhausted by his efforts to conceal the existence of Section 40 that he can only desperately sum up his views on the impossibility of prosecuting quackery by stating that "the General Medical Council," as a corporate body, is unable to take a single step

with regard to them." But your readers will see at once that the opinion of Mr. Carter, the expert on the Medical Acts, does not coincide with the actions of Mr. Carter, the Member of the General Medical Council, for on dipping into the minutes of the General Medical Council we find that Mr. Carter was present at the meeting on Dec. 2nd, 1895, when the Council woke up from its long sleep of thirty-six years and resolved; "That the Council instructs its Penal Committee to inquire into cases of persons offending under Section 40 of the Medical Act, 1858, and where it sees fit to instruct the legal advisers to proceed against such persons."[1]

It is quite possible that Mr. Carter may consider it a worthy line of reply to say that on that occasion he voted not for the suppression of unqualified practice, but for the sole and academic purpose of stopping people saying that they had a diploma when in fact they had none. If he should take this line then more will follow, and we shall perhaps discover why, with all his clearness of ocular inspection, he fails to see more than about fifty sections in an Act which actually contains fifty-five.

In conclusion, Mr. Carter says as regards the views of Dr. Drage and myself on the serious evils produced by the improper powers of the President of the Council that "it is impossible to come to close quarters with the balderdash." Mr. Carter has, I am afraid, no very real desire to "come to close quarters" on the subject of Sir Richard Quain's actions; in fact, at present his only method of fighting for his chief is to fling some mud and then to run away. He need not complain to your readers that the report of my paper in the *Times* was "condensed" (though, by the way, perfectly accurate). The full text will very shortly be published in the *British Medical Journal*, and I will take care that he receives a copy. I challenge Mr. Carter to then refute, if he can, my statements and quotations, which I submit convict the President of essentially and personally despotic acts, and the "authority" for which is in part to be found in the standing orders, which are of such a character, offering as they do every opportunity of injustice and partiality, that Mr. Carter cannot be credited with a useful ten years' service, on which he is inclined to plume himself, since he has done nothing to reform the regulations under which he is content to "work."

As regards his final appeal, no one can dispute the completeness with which Dr. Glover, Dr. Woodcock, and Dr. Drage "are qualified by education, by experience, and by professional and social position to hold their own among the colleagues in whose deliberations they will take part."

I am, Sirs, yours faithfully,

London, Aug. 12th, 1896. VICTOR HORSLEY.

THE MEDICAL MAN AND PRESCRIBING.

To the Editors of THE LANCET.

SIRS,—The numerous complaints constantly appearing in THE LANCET and elsewhere about the financial outlook for medical practitioners are very distressing, but is not the trouble the natural outcome of our own pride and folly? By our fancy for prescription writing we teach other people how to cure our patients and then cry for what we have thrown away. In France, where the medical man is not permitted by law to do more than write a prescription, the evil is still more acute. The average Frenchman realises that he gets his remedy from the druggist, and as far as possible goes to him direct to avoid two bills. The better the medical man and the more useful the prescription the less is the chance of the patient's returning, though the druggist may see him frequently for months. A year or two's residence in France has convinced me that the position of the druggist is there far more tempting financially than that of the practitioner. France teaches yet another practical lesson. There the poor prospect for the average medical man and the cheapness of a medical education cause the professional ranks to be filled from a lower stratum of society than in England. This result is inevitable and is very obvious to anyone who, like myself, has graduated in both countries. Inasmuch as a medical man needs a social as well as a medical education, it is very important that a medical career should still remain sufficiently attractive financially to appeal to the youths of our own better-class families. While English invalids armed with one another's prescriptions are treating themselves, medical men who miss their visits had better pass their spare time reconsidering the wisdom of teaching patients to go elsewhere. If prescriptions were sent by the medical man direct to the druggist and kept back by him patients would be better treated and less perverse, the medical man would be more often visited and be more in touch with his patients, and the druggist would again become a dispenser, as he was meant to be.

I remain, Sirs, yours faithfully,

D. W. SAMWAYS, M.D. Camb. and Paris, D.Sc. Lond.

Mentone, Riviera, Aug. 11th, 1896.

[1] Minutes of General Medical Council, 1895, p. 153-4.

"SUNBURN" BY THE ROENTGEN RAYS.

To the Editors of THE LANCET.

SIRS,—With reference to the letter from Berlin in your last issue respecting the "Sun-burning" action of the Roentgen rays upon the skin, it may interest your readers to know that Dr. Robert L. Bowles, read a paper before the Camera Club, on March 12th, on "Roentgen Rays and Reflected Solar Light." He found that reflected luminous or photo-chemical rays, as well as the "x" rays, penetrate the human skin into the deeper tissues beneath, and produce great and important changes. That it is light, and not heat merely, which causes sunburn he proved by the following facts. In Alpine climbing, the sun on snow burns more quickly than on rocks or heated valleys, although the heat necessarily must be occupied in melting the snow and thus becomes latent. Glass and iron workers, though exposed to a much greater heat than is experienced on a sunny snow slope, do not become sun-burned. Professor Tyndall when experimenting with the electric light at the North Foreland Lighthouse was more sun-burned than in any Alpine snow, although there was no snow or heat at the time. Dr. Bowles' conclusions were: that heat *qua* heat is not the cause of sunburn; that it is most probably caused by the violet or ultra-violet rays; that these are modified by snow and by altitude; that sunburn, snow-blindness, and sunstroke are caused by the penetrating effects of luminous and actinic rays; that rays from the electric light produce the same effects as rays reflected from snow; that various pigments, chiefly those containing red and yellow, stop or alter reflected luminous rays; that freckles, which are the milder effects of luminous rays, stop the penetration of those rays through the skin; and that the sometimes very serious inflammatory changes in sunburn and "summer eruptions" are due to the penetration of reflected luminous rays through the skin to the deeper tissues beneath. His observations lead him to conclude that the "x" rays are modifications only of ordinary light and that their further elucidation must go hand in hand with a further inquiry into the profound changes caused by reflection.

I am, Sirs, yours truly,

WILLIAM RUSHTON, L.D.S. R.C.S. Eng.

Harley Street, S.W., Aug. 10th, 1896.

OUGHT PATIENTS SUFFERING FROM TYPHOID FEVER TO BE SENT TO FEVER HOSPITALS?

To the Editors of THE LANCET.

SIRS,—Now that the fever hospitals are so overcrowded and new ones of gigantic size are being built, regardless of cost, at the ratepayers' expense, it is extremely important that only suitable cases should be admitted. Long ago it was proposed by Dr. Wilks to call enteric fever "enterica," with the object, I believe, of preventing the general public looking upon the disease as a "fever" which was infectious and needed to be isolated in "fever" hospitals.

It is now generally admitted that the fæces alone are the source of infection from typhoid fever and that these when quite fresh are probably innocuous. I have heard three reasons given why patients suffering from enterica should be admitted to "fever" hospitals: 1. In a "fever" hospital the bed-clothes and all other articles liable to be contaminated with fæces are better cleansed than at ordinary general hospitals, as the nurses are better instructed how to disinfect them and there are better appliances for so doing. The answer to this is that all general hospitals should be provided, and probably are provided, with suitable apparatus

for thoroughly disinfecting articles contaminated with the excreta of typhoid fever patients, and that the nurses at general hospitals ought to be thoroughly instructed as to the absolute necessity of completely disinfecting such articles. 2. The nursing staff at "fever" hospitals have been proved to be less prone to take typhoid fever than those at general hospitals. I would answer that serious epidemics occurring in the nursing staff at general hospitals prove that the drains of those hospitals are defective. 3. The custom of admitting typhoid fever patients to "fever" hospitals has obtained for a great number of years, and it is undesirable to alter it, as comparatively few beds are occupied by these patients. The reply is that though it is true in each "fever" hospital the number of beds allotted to typhoid fever is comparatively small, yet if all the "fever" hospitals are taken together it will be found that in the aggregate a large number of beds are occupied by typhoid fever patients which might have been utilised for really "infectious" diseases, such as scarlet fever. One other point that has been argued is that as typhoid fever has to be "notified" it ought to be sent to a "fever" hospital, but erysipelas and puerperal fever have also to be "notified" and they are not sent to fever hospitals. I feel sure that if the ratepayers are obliged to pay enormous sums for the "fever" hospitals they will certainly give less to the voluntary hospitals.

I am, Sirs, yours faithfully,

Blackheath, Aug. 8th, 1896. ROBERT S. WAINEWRIGHT.

"THE POSSIBILITY OF OVARIAN PREGNANCY."

To the Editors of THE LANCET.

SIRS,—I am writing away from references, and, therefore cannot give the date of my most recent papers bearing on this subject, but they are in the Transactions of the Royal Medical and Chirurgical Society some four or five years ago, and I am somewhat disappointed that they should have escaped the notice of one so skilled in gynæcological literature as Mr. Alban Doran. In these papers are given at length the reasons why such cases as that published by Dr. Oliver are to be classed as broad ligament pregnancies, and three similar have been lately described, two by myself and one by Dr. Heywood Smith. I have still to say what I said fifteen years ago that pregnancy developing in the ovary may be possible, but it has yet to be proved.

I am, Sirs, yours truly,

The Crescent, Birmingham, Aug. 8th, 1896. LAWSON TAIT.

THE NOMENCLATURE OF DISEASES.

To the Editors of THE LANCET.

SIRS,—In the "suggestions" respecting the filling in of death certificates to be found on the first page of the usual book of forms will be found the following words: "State the causes of death in terms as precise as possible and use the names adopted in the nomenclature of the Royal College of Physicians." This suggestion I make it a matter of duty to follow as closely as I can; consequently I am disappointed to find that the third edition of the "Nomenclature" just published has done nothing to help one over a difficulty which is often met with in filling up a death certificate in a case like the following, which is no uncommon one. A child aged three months was brought to me because it "did not seem to be getting on, but was falling away." The child was illegitimate and had been nursed by its mother for one month, after which it was put out to be nursed and was fed upon condensed milk, biscuits, &c. From that time the child wasted to mere skin and bone, and died the day after I saw it. The cause of death was simple starvation from deprivation of breast-milk and inability to digest artificial food. How was the death certificate to be filled in?

"Starvation" (p. 13 in the "Nomenclature"), including, as it does, criminal neglect (which was absent in this case), would not have been accepted by the Registrar, especially in the case of an illegitimate child, without further inquiries, and, perhaps, a coroner's inquest, besides being a term which would naturally be resented by the relatives who, unfortunately, see the certificate. "Inanition" (p. 428) is "not to be employed in the registration of disease," and is as objectionable as "starvation" and for similar reasons. "Marasmus" (p. 437) is a term no longer used. "Debility" (p. 17) is too vague, and when the cause is known (as it is in this particular case) it should be "returned under the head of the primary cause." I can find no such heading, nor one which is in the least degree applicable to the case.

The tables drawn up by the Society of Medical Officers of Health are much better in this respect, since they include under the head of Dietetic Diseases (Table 3) "want of breast milk." In this instance I filled up the certificate as follows: Primary, deprivation of breast-milk and inability to digest artificial food; secondary, debility and atrophy.

I remain, Sirs, yours faithfully,

Aug. 8th, 1896. R. BRUCE FERGUSON, M.A., M.D. Cantab.

"THE BRITISH MEDICAL BENEVOLENT SOCIETY."

To the Editors of THE LANCET.

SIRS,—I have to pay over a legacy of £50 under a will to a society described in the will as "The British Medical Benevolent Society." Can any of your readers kindly inform me, through the medium of your valuable paper, whether there is or has been in existence a society bearing that precise title, and if so what is the address or office of the society? The nearest to it which I find is the British Medical Benevolent Fund.—I am, Sirs, your obedient servant,

Aug. 11th, 1896. COUNTRY SOLICITOR.

*** We believe that the British Medical Benevolent Fund and the Royal Medical Benevolent College have before now put in claims to the same legacy where the vague wording of the will had left it in doubt which charity it had been intended by the testator to benefit.—ED. L.

"WHY IS THE LEFT HEART STRONGER THAN THE RIGHT?"

To the Editors of THE LANCET.

SIRS,—Dr. Alexander Morison contends that the greater resistance in the systemic as compared with the pulmonary segment is essentially due to (1) the greater length of the former, and (2) to the greater quantity of blood it contains. It is not difficult to show that both these contentions are wrong. 1. That mere length of circuit takes little part in causing resistance to the blood-flow is obvious from many considerations: (*a*) The length of the systemic circuit is chiefly determined by the length of the larger arteries, such as the aorta, the brachials, and the femorals. Now while there can be little doubt that long, narrow arteries like the spermatic offer considerable resistance, such is not the case with large arteries. This fact, which I have myself experimentally demonstrated, is acknowledged by most authorities. H. Jacobson long ago pointed out that "the pressure in the principal arterial trunks remains very nearly identical with that of the bulbus aortæ," and more recent authorities insist upon the same fact. Blood pressure falls very little along such an artery as the brachial. (*b*) If mere length of circuit plays a large part in causing resistance the systemic veins of such animals as the whale and the giraffe would offer a great resistance; but they do not. (*c*) Further, on this assumption, we should expect to find a greater disproportion between the two sides of the heart in animals like the giraffe, which possess a long systemic circuit in proportion to their weight than obtains in such an animal as the rabbit, for instance; but I am not aware that any such disproportion exists. (*d*) Nothing more conclusively shows the small influence of length of circuit on resistance than the comparatively small difference in the systemic resistance, as determined by carotid pressure, in animals differing greatly in size. Thus while the carotid pressure of the horse varies from 160 to 200 mm. Hg., that of the sheep, with a much shorter circuit, varies between 155 to 210 mm. Hg. (Langely of Cambridge). 2. Dr. Morison's contention that the larger quantity of blood in the systemic as compared with the pulmonary circuit helps to make resistance greater in the former is even more easily disposed of. Paradoxical as it may seem, it is the very opposite of the truth. In so far as this larger quantity of systemic blood is the outcome of the larger systemic capacity it is actually a reason why systemic resistance should be less than pulmonary. How greatly Dr. Morison is in error here

is manifest from the following consideration. If the pulmonary segment were contracted to a degree which would render it capable of holding only one-twentieth its average quantity of blood, the right heart, though having much less than the normal quantity of blood in front of it, would have very much more than the normal amount of work to do. Every time a ventricleful of blood passes through the systemic circuit the same quantity must on an average traverse the pulmonary circuit (Dr. Morison rightly observes that I did not express myself clearly on this point in the article to which he refers), and such a diminution in the capacity of the pulmonary circuit would lead to an enormous augmentation in the rate of the pulmonary flow and to a corresponding increase in pulmonary resistance. 3. Dr. Morison further contends that "the aid afforded to the dextro-cardiac circulation by thoracic aspiration is one of the causes of the less powerful development of the right as compared with the left ventricle." Is it certain that thoracic aspiration affords greater help to the pulmonary than to the systemic circulation? I have doubts on this point. In any case Dr. Morison will allow that such a factor must be a subsidiary one.

It will thus be seen, Sirs, that Dr. Morison has not offered any valid objections to my conclusion. If I am wrong there should be little difficulty in proving it, for the problem which I have sought to solve is one which can be stated and argued out with almost mathematical accuracy.

I am, Sirs, faithfully yours,

Devonshire-street, W., Aug. 8th, 1896. HARRY CAMPBELL.

ELECTION OF DIRECT REPRESENTATIVES TO THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—I wish to bring before medical practitioners a very grave ruling of the General Medical Council whereby a number of persons who should be entitled to vote are now disfranchised.

In July last I wrote to the Registrar of the General Medical Council asking if practitioners resident in the Isle of Man were entitled to vote at the coming election of direct representatives, and on July 27th I was surprised to hear from the Registrar that such practitioners had no vote whatsoever. I next wrote to the Registrar to inquire whether practitioners resident in the Channel Islands, Isle of Wight, Scottish Isles, &c., had a right to vote, when the Registrar referred me to Sections 7 and 27 of the Medical Act, 1886. If reference be made to Section 7 it will be found that it is enacted that three direct representatives shall be elected by registered practitioners resident in "England," one by those in "Scotland" and one by those resident in "Ireland"; and if reference be made to Section 27, which is the defining section, it will be found that the expression "part of the United Kingdom" means, "according to circumstances, England, Scotland, or Ireland." Now it will be seen by the words of these sections that, strictly speaking, all practitioners resident *outside* of "England," "Scotland," and "Ireland" can be disfranchised. It, however, is a puzzle to me to find that practitioners resident in the Isle of Man are disfranchised by the action of the General Medical Council—this body of dry bones—while practitioners resident in Wales are not disfranchised, especially as the word Wales is not mentioned in the Act. I regret the Registrar of the Council has refused to tell me if practitioners resident in the Isle of Wight and other contiguous islands are disfranchised, but this act of the Registrar to me is only upon a par with that discourtesy which I have received from the General Medical Council since I began to take a practical interest in medico-political questions.

I ask that the Council of the British Medical Association and the Councils of the various Medico-Ethical Societies and practitioners in the Isle of Man, &c., should at once take this question up, and that they petition the Privy Council to instruct the General Medical Council not to disfranchise registered practitioners, but to send voting papers to all resident in the Isle of Man and other neighbouring islands.

I hope this question of disfranchisement will receive proper attention when the amending of the Medical Act is taken in hand. The loose construction of many sections of the Medical Acts and the deplorable results accruing therefrom should act as a severe lesson to practitioners and make them understand the real and actual meaning of words in an Act of Parliament or elsewhere.

I am, Sirs, yours faithfully,

Liverpool, Aug. 12th, 1896. ROBERT R. RENTOUL.

P.S.—I intend calling the attention of the Privy Council and of Members of Parliament to the replies of the Registrar of the General Medical Council.

To the Editors of THE LANCET.

SIRS,—At a meeting of the Council of the London and Counties Medical Protection Society, Limited, held on the 4th inst., the following resolution was unanimously passed, viz.: "The Council, having considered the letters sent to them by two members of the society in reference to the coming election of representatives of the profession to the General Medical Council, is strongly of opinion that, as the society not infrequently appears before the General Medical Council as prosecutor in cases affecting the interests of medical men, it is in the highest degree undesirable that the society should take any active part in furthering the election of any candidate for a seat on the General Medical Council."

I am, Sirs, your obedient servant,

HUGH WOODS,
Hon. Secretary London and Counties Medical Protection Society, Limited.

Aug. 7th, 1896.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Smoke Prevention in Manchester and Salford.

FOR about six years a committee has been engaged in testing various smoke-preventing appliances, and on the 15th inst. a deputation waited on the Lord Mayor of Manchester and the Mayor of Salford to present to each a copy of the report embodying the results of work carefully carried on during this long period. Mr. Herbert Philips (vice chairman of the committee and chairman of the Manchester and Salford Noxious Vapours Abatement Association) said the "Committee for Testing Smoke-preventing Appliances" was started by Mr. A. E. Fletcher, the late chief inspector of alkali works, and Mr. Carpenter, the present chief inspector, while Mr. F. Scott, who has so long been the secretary of the Manchester and Salford Sanitary Association, has been very energetic as secretary of the committee. The inaugural meeting was held in Manchester in 1889, Lord Egerton of Tatton being in the chair, and meetings have been held in London, Glasgow, Sheffield, Leeds, and Birmingham, and committees formed in nearly all of them. The inquiry has been limited to smoke from factories and manufacturing works. Dealing with house smoke is a different and a difficult problem still remaining to be solved. The Public Health Act has long given the power to the authorities to deal with the smoke from factories, but it has not been used with regularity as there was doubt as to whether manufacturers were able, at a reasonable cost, to comply with the requirements of the law. The result of long and practical investigation is given in the report as follows: "In presenting this report the committee would express their conviction that in the great majority of cases the black smoke thrown into the air during the combustion of coal is preventible, either by hand or mechanical firing, and without great cost to the consumer. Often the prevention of smoke is accompanied by a saving of expense in that an increase of heat is developed by a more perfect combustion of the fuel, and where live fire-bars are adopted—i.e., where the bars have an automatic reciprocating motion—an inferior and cheaper quality of coal can be used, and thus a further saving of expense is effected. To sum up in one sentence the conclusion of the committee as to smoke produced in raising steam: a manufacturing district may be free from manufacturing smoke—at least from the steam boilers, with which alone the committee have concerned themselves; and as to the means by which it may be so freed this report contains ample information." The Lord Mayor thanked the deputation, and said "he could not promise when he would be able to peruse the report," but he would take an early opportunity of doing what he could to familiarise himself with its salient points. Though

not altogether unfriendly, his lordship does not seem consumed with zeal for the cause of smoke prevention. From the Manchester town hall the deputation went to Salford and was received by the chairman of the Sanitary Committee, in the absence of the Mayor. Mr. Philips said they had not come to discuss the case of Salford, as there was nothing local about the work of the committee, but he could not help fearing that the condition of the Salford atmosphere was about to be considerably deteriorated through the loss of the great open space represented by Trafford Park. "Circumstances connected with the sale of the park led one to suppose that a great volcano of smoke would be set up on that side of the river which westerly winds would carry to Salford." Mr. Lavington E. Fletcher said the Steam Users' Association had quite independently arrived at results which quite corroborated those of the committee. "All that was needed was that boiler owners should take a personal interest in the matter." This report, though not light reading, is really of immense value in showing, not theoretically but practically, how much may easily be done to abate the nuisance and the serious evil of excessive smoke production; and the community at large owes a debt of gratitude to the committee for the patient carrying out of this somewhat costly investigation. It is to be regretted that iron-works, which are even more offensive than the factories, did not come within the scope of inquiries. This is a familiar fact, but the neighbouring town of Warrington may be taken as one illustration out of many of the way in which the neighbourhood is befouled by the dense volumes of black smoke sent forth in utter disregard of the comfort and well-being of the patient and long-suffering inhabitants.

Death from a Steam Bath.

The city coroner held an inquest the other day on a child seven months old, and though the verdict was "Accidental death" it seems to have been due to carelessness or stupidity so gross as to have been almost criminal. While under medical treatment for bronchitis and convulsions the mother was advised by a sister to give the child a steam bath. These women, therefore, put a shawl about the head of the cradle, fixed a piece of rubber tubing to the kettle spout, put the other end of the tube in the cradle-head, and proceeded to get up steam by setting the kettle to boil. No wonder that a cry was heard and the baby found scalded about the face. The infant was taken to the infirmary, and died the day but one after, the innocent victim of that dangerous weapon, "a little knowledge."

Fatal Leap at Hope Hospital.

Mr. Holmes, the Salford coroner, held an inquest a fortnight since respecting the death of Elizabeth Kelsey, a patient at the workhouse hospital, which is under the control of the Salford guardians. During the temporary absence of the nurse she jumped out of the ward window on the third story and was killed. It came out in evidence that the nurse had to attend to three wards on three different floors. The jury, in returning a verdict of "Accidental death," made some judicious recommendations, the first was that there should be a nurse for each floor; the second observation was that, in their opinion, the hours during which the nurse was on duty were excessive; and the third that the windows ought to be made more secure. In this case it was the patient, not the nurse, that committed suicide, as at Pendlebury, but the nurse, as in too many cases, had clearly more to supervise than she was able to do. In many other callings the treatment nurses often receive would be considered an approach to "sweating."

Memorial to the late Mr. Thomas Hick, B.A., B.Sc. Lond., &c.

The Owens College has suffered a serious loss in the death of the assistant-lecturer on botany, who was esteemed alike for his personal qualities and his scientific attainments. It was felt by many that there should be something to mark his connexion with the College, and on Friday last a meeting was held in the museum and the following resolutions were passed:—(1) "That it is desirable that some permanent memorial be established of the late Mr. Thomas Hick, B.A., B.Sc. Lond., A.L.S., Assistant Lecturer on Botany in the Owens College." (2) "That a sum of money be raised with a view to purchasing Mr. Hick's collection of microscopic sections of coal plants and depositing them in the Manchester Museum, to be known as the 'Hick' collection, and that any surplus be devoted to the purchase of a portion of his library, to be given to the Yorkshire Naturalists' Union, or to perpetuating his memory in such other manner as may hereafter be decided by the contributors." Mr. Hick for a long time assisted the late Professor Williamson, F.R.S., who was famed for his skill in grinding down and preparing sections of coal measure plants, and thus acquired unusual aptitude of like kind. A large committee was appointed to carry out the above resolutions, consisting of friends and scientific men representing Lancashire, Yorkshire, and other parts of the country. Professor Weiss was appointed secretary.

Aug. 11th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Flourishing Quacks and Public Credulity.

THE evidence adduced at the coroner's court relating to the death of a widow named Lee, who died in Liverpool under suspicious circumstances, affords another instance of the remarkable credulity of the public in the *bonâ fides* of quack advertisements. The evidence of Mr. Hanley, who was called in to see the deceased, proved that she was suffering from hæmorrhage and a threatened miscarriage. He then formed the opinion that she had been tampered with, probably by some blunt instrument, and thought it very improbable that the injuries could have been self-inflicted. He also found indications of dangerous drugs having been administered. The deceased eventually miscarried and died on June 6th from peritonitis set up by the injury. The evidence of other witnesses brought out the fact that the deceased went to a house in Erskine-street kept by a Mrs. M'Conville and asked for "their strongest remedy." An advertisement headed "A Boon to Ladies" was produced in court. A clerk in the employ of Mrs. M'Conville named Burgess said that he gave the deceased two bottles of medicine on March 24th, one to be used in the morning and the other in the evening, for which he charged 22*s*. On April 10th the deceased applied for more medicine, when two more bottles at the same price were forwarded to her. The coroner then proceeded to inspect the witness's entry book and remarked that it seemed a very profitable business. Burgess admitted that they advertised in over 200 papers under the name of Dr. Collins and spent thereon £30 a week. Denis Collins said he had been a surgeon since 1863. He was not now on the Register, having been struck off about two years ago for advertising. It was a fact that he hired himself out to Mrs. M'Conville at 9, Erskine-street. His duties were to attend to the male patients. The females were attended by "Dr. Fitzgerald." Upon the coroner asking him who was Mrs. M'Conville the interesting reply was elicited that her husband carried on the business before her, but that he is at present in Portland serving the Queen. Asked by the coroner upon what charge, the reply came that "it was on account of an electric belt sold to a person in Ireland." (An account of M'Conville's prosecution and conviction, with editorial comments on his offence, will be found in THE LANCET of March 31st, 1894.) The coroner read the report of the analytical chemist concerning the contents of the bottles supplied to the deceased, which consisted of aloes. Used as a purgative it might procure abortion, but the analyst did not think it would produce any serious effects. The coroner, in addressing the jury, said it was a lamentable thing that advertisements of the kind referred to were allowed to appear in the public press. They merely held out false hopes and caused endless and untold misery to the poor creatures who were so far deluded as to be guided by them. They saw the kind of people who carried on such a business. Whether justice would come home to anyone he did not know. He sincerely hoped it might. An open verdict was returned by the jury, who also expressed their condemnation of the conduct of Collins and Fitzgerald.

The Assizes.

Mr. Justice Cave, in his charge to the grand jury on the 27th ult., said that although the number of prisoners (amounting to somewhat under sixty) was not very great, he was sorry to say that the quality of the offences was of a very grave description, especially in the number of those offences directed against persons rather than against property. There were no less than six cases of murder, five cases of manslaughter, and nine cases of more or less serious injuries

to the person, a great many of which were caused by the use of the knife. In one of the cases of alleged murder a woman named Brady was charged with having strangled her husband, although there was no direct evidence of anybody who saw her do it, but a number of persons found her kneeling beside him with her hands fastened in a muffler twisted round his neck. After the strangulation the muffler was twisted in such a way that she could not release her hands, and it was some time before some neighbours could assist her to release them. Should these facts be proved there was *primâ-facie* evidence of murder.

Heavy Infant Mortality.

Three hundred and twenty-eight deaths were registered in the city during the week ending July 23rd (showing a death-rate of 26·6 per 1000), of which 199 were those of children under five years of age and 152 of infants below one year. Zymotic diseases caused 101 deaths in the old area of the city and 17 in the added ones, compared with 61 as the average in the former for the corresponding period of the last ten years. No fewer than 89 of the fatal zymotic cases resulted from diarrhœa, of which 81 were infants below one year. Five thousand copies of the medical officer's instructions to parents and guardians for the prevention and treatment of diarrhœa had been issued, and there is no doubt that this large infant mortality would be considerably diminished if these instructions were intelligently carried out.

Suspected Tuberculosis in the Liverpool Milk-Supply.

The medical officer of health has been instructed by the City Council to prepare a report on the milk-supply of Liverpool with special reference to tuberculosis, and at the same time also to undertake a complete experimental investigation. There is reason to believe that tuberculosis is rife in some 5000 cows pent up in local shippons. The milk of these cows is tested, but only with the view of detecting adulteration. Should the analysis fail to detect the addition of water the examination is considered satisfactory. Mr. A. Shelmerdine, one of the city councillors, caustically remarked that it would be better if 25 per cent. of the Liverpool milk were all water. The subject is one of the gravest importance, affecting the health of individuals of all ages. It is most essential that cowsheds should be properly lighted and ventilated and that a sufficient amount of cubic space be allowed to each cow. The floors should be thoroughly examined to ensure that their construction be such as to favour a quick discharge of excreta. It is to be hoped that every means will be taken to sift the matter to the bottom, as much uneasiness has existed for some time as to the presence of this disease in our local milk-supply.

Action against a Local Surgeon.

A remarkable civil action, in which a minor named Lilly Newman sued through her father Mr. J. D. Crawford, a local practitioner, for damages for an alleged assault, was concluded on Saturday at the assizes. The defendant denied the charge and also every allegation in the statement of claim. The case terminated in the disagreement of the jury, who were consequently discharged.

Aug. 11th.

WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Prosecution of Unqualified Dentists at Cardiff.

AT the Cardiff police-court on July 28th Templar Malins of Cardiff was prosecuted at the instance of the British Dental Association for practising dentistry without being registered under the Act. The defendant admitted that he had written "Popular Dentistry" over his shop, but urged that he had no desire to make the public believe that he was a fully qualified dentist. The stipendiary magistrate fined him £5 and costs, or in default one month's imprisonment. On the same day a similar case was stated against G. F. Bamber of Cardiff. It was proved that outside defendant's house a case of teeth was exhibited and on the railings these words appeared: "Bamber. Teeth extracted. Prize medal artificial teeth." A fine of £20 and costs was imposed, with in alternative of two months' imprisonment, this being defendant's second offence, he having been previously convicted for an infringement of the Act at Barrow-in-Furness.

Dangerous Performances at Cardiff.

Mabel Evans, a young girl of fourteen, made her first appearance as a "lady parachutist" at the Cardiff Exhibition on July 21st. The wind was very high at the time, and, being unable to control her course, she fell with the parachute into the Bristol Channel and was drowned, her dead body being recovered at Newport four days later. At the inquest, held on July 27th, a verdict of "Accidentally drowned" was returned. The jury censured a Mr. Gaudron, under whose direction the ascent was made, for his want of judgment in allowing so young and inexperienced a girl to make an ascent in such weather. The committee of the exhibition have wisely decided to prohibit any more of these performances. Several other parachutists have on different occasions lost their lives or have sustained serious injuries. It is high time that these dangerous exhibitions ceased, for the wonder is that there are not more victims to the craze for these sensational performances.

Disposal of the Sewage at Bath.

A special meeting of the Bath Town Council was held on July 28th to consider the subject of the river pollution by sewage. The council eventually approved of the erection of a pumping station at Tiverton, and the conveyance thence of the sewage by means of a culvert to a site below Saltford, where the precipitation and coke breeze filtration system will be adopted. The cost of the scheme will be about £120,000. The council are to be congratulated upon their decision, for the question of the disposal of the sewage at Bath has for some length of time engaged their attention. There was a considerable amount of opposition displayed, several members urging delay, and one produced and drank from a bottle water taken from the river that morning to show his belief that the water was not so polluted as alleged.

The Sewage in the River at Bedminster.

At the meeting of the Bristol Sanitary Committee held on July 23rd it was decided to appoint a sub-committee to collect full information and report upon the sewage in the New Cut. The borough engineer was instructed to report on the immediate carrying out of a scheme to remedy the foul smells arising from the sewage in the river. The chairman stated that other engineers had also been asked to make suggestions and had already sent in their reports.

The Appointment to the Bulawayo Hospital.

The Chartered Company has appointed Mr. Thomas B. P. Davies, M.D., M.S. (Lond.), M.R.C.S. Eng., of Milford Haven, to be surgeon to the Bulawayo Hospital, and he sailed for South Africa on July 25th. There were over 200 applicants for the post.

The Wells (Somerset) Board of Guardians and the Dispensing of Drugs.

At the last meeting of the Wells board of guardians a letter was read from the Local Government Board stating that the Board had assented for a period of one year on trial to the rearrangement proposed by the guardians of the Wells Union, which was that the medical officers should dispense their own medicines, and also that Dr. R. Purnell, Mr. G. O. Risdon, Dr. M. J. Doidge, and Dr. F. J. Malden, the district medical officers, should accordingly have their salaries raised.

A New Isolation Hospital for Gloucester.

At the meeting of the Gloucester City Council held on July 28th it was decided to purchase the Vineyard Hill property, comprising a house and thirty acres of land on the west side of the city, for £3500 for the erection of an infectious diseases hospital.

Barry Accident Hospital.

At a meeting of the Health Committee of the Barry District Council held last week a letter was read from the honorary secretary of the Barry Accident Hospital, asking the council to contribute towards the funds of the institution, and stating that the expenses were so great that it would have to be closed unless more assistance was forthcoming from the public. The committee decided to discuss the matter after the Bill which the council had introduced in Parliament had been passed, when they thought they would be able to arrive at a favourable decision.

Enlargement of the Glamorgan Joint Asylum.

At a meeting of the Cardiff Corporation Asylum Committee, held on July 28th, the plans of the proposed new block for 120 female patients at Parc Gwyllt, at a cost of

£18,000, and for the married attendants' quarters at a cost of £2500, were approved, and the committee recommended the town council to adopt them.

Aug. 12th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Medical Officer of Health for Midlothian and an Edinburgh Newspaper.

ON May 9th a paragraph appeared in THE LANCET, under "Scotland," dealing with criticisms which had appeared in an Edinburgh evening newspaper on the annual report by the Medical Officer of Health for Midlothian. After an interval of over two months, on the 27th ult. the same paper has a leading article in which it appears to object to Dr. Brock's having reprinted the paragraph which appeared in this column and other paragraphs which appeared in medical or sanitary journals. At the same time it suggests that the paragraphs from the three journals may have had a common source. With regard to the paragraph in THE LANCET it was written by myself in discharge of my duties as your Edinburgh correspondent, and I am not responsible for the comments made elsewhere. Notwithstanding the discovery the Edinburgh paper thinks it has made of a "similarity of design and composition," I do not consider myself called upon to be Dr. Brock's apologist for omitting to state that the paragraph in question appeared in your Scottish Correspondence, and it is hardly necessary to say that a paper does not necessarily endorse the contributions of its correspondents. At the same time it may be mentioned that Dr. Brock's report and the article criticising it were both sent by me to you as Editors of THE LANCET to enable you to judge as to whether my paragraph was warranted. No complaint was made of a public servant being criticised in the lay press, but complaint was made that the lay press should publish articles in its leading columns, and therefore carrying editorial weight, written by someone whose lack of knowledge was indicated by his statements about the tubercle bacillus. The newspaper writer wishes to be delivered from "sanitarians of the scientific order," and in view of the state of his knowledge that wish need not be wondered at. That the *Evening Dispatch*, however, should commit itself to that is matter for regret, as one would like to see its influence on the side of enlightenment and progress; and it might be suggested to the editor of the *Evening Dispatch* that Dr. Brock's propositions, being supported by persons presumably attached in some official way to three medical or sanitary journals, might be taken as fairly strong evidence of their being "accepted by the scientific sanitarian," whatever the individual writer in his columns may think or say to the contrary. That Dr. Brock should have thought it worth while to send to his board excerpts from the professional press on the criticism of his report in a newspaper is a matter of which he is probably the best judge. When, however, the writer in the *Evening Dispatch* speaks of "highly eulogistic notices of Dr. Brock's report" one wonders what meaning he attaches to the words he uses; perhaps he aims at deliverance from "scientific" limitations in the department of literature as well as of public health.[1]

Edinburgh University Graduation Ceremony.

The graduation ceremonial in law, medicine, and science in connexion with the University of Edinburgh took place on August 1st in the Synod Hall before a large and brilliant gathering. Principal Sir William Muir presided. Honorary degrees were conferred upon the Rev. Canon Gore of Westminster; the Honourable the Rev. Principal Miller of Madras; Sir Charles A. Elliot, late Lieutenant-Governor of Bengal; Professor Francis A. Walker of Boston; and Sir Dietrich Brandis, late Inspector-General of Forests, India. The degree of M.D. was then conferred upon seventy-six gentlemen. The following obtained gold medals for their theses:—R. S. Aitchison (Scotland), on Some Effects of Certain Diets upon Excretion by the Kidneys and upon the Blood; William Elder (Scotland), on Aphasia and the Localisation of the Cerebral Speech Mechanism; Robert Alexander Fleming (Scotland), on Two Cases of Peripheral Neuritis considered Clinically and Pathologically, together with an Experimental Research into the Relationship of Traumatic Nerve Degenerations to this Disease; C. B. Ker (England), on the General Treatment of Enteric Fever; T. Macpherson (Scotland), on the Systematised Insanity of Persecution with an Analysis of its Elements and the Consideration of its Pathological and Medico-Legal Aspects; T. H. Milroy (Scotland), on Studies in the Chemistry of the Animal Cell especially with Reference to the Nucleins and Paranucleins; and G. R. Wilson (Scotland), on Insane Modes of Speech, with Special Reference to the Physiology of Mental Processes. The degrees of M.B., C.M. were conferred upon 151 graduates, of whom two were ladies. The two ladies were Miss Jessie Macgregor and Miss Mona Geddes, both of Edinburgh. They are the first two ladies who have taken their degrees in Medicine at the Edinburgh University and they were received with great enthusiasm. The Ettles scholarship was awarded to P. J. Henderson, M.B.; the Beaney prize in anatomy and surgery to W. H. Carse, M.B.; the Stark scholarship in clinical medicine to J. Forbes, M.B.; the Buchanan scholarship in gynæcology to L. Grant, M.B.; the James Scott scholarship in midwifery to T. M. Callender, M.B.; and the Freeland Barbour Fellowship to J. G. Patrick Murray, M.B. The Cameron prize in therapeutics was awarded to Professor William Macewen of Glasgow University for the valuable results of his investigations on the surgery of the brain. The address to the graduates was delivered by Professor Chiene and was published in THE LANCET of Aug. 8th.

Physiological Action of Eucaine.

In a paper read before the Royal Society of Edinburgh on July 20th Professor Charteris, Glasgow University, stated that with the assistance of Dr. MacLennan he commenced in May comparative experiments with the hydrochlorate of eucaine and the hydrochlorate of cocaine. Watery solutions of these salts were injected into guinea-pigs. At first the dose administered was small, but it was gradually increased till the lethal dose of each was accurately ascertained. After repeated experiments it was found that the toxic dose of eucaine per kilo body-weight was 0·09 gramme and that the toxic dose of cocaine per kilo body-weight was 0·068 gramme. The mode of death from the two substances varied. With the cocaine salt there were more rotatory movements of the head, more salivation, more opisthotonos, and more accelerated respirations than with the eucaine salt. It was also noticed that the physiological action produced by a given dose of eucaine did not follow nearly so rapidly as that which followed a similar dose of cocaine under identical conditions. Hence it was concluded that the action of eucaine was slower in onset and less in intensity.

University of St. Andrews.

The exact position of the unfortunate dispute between the University of St. Andrews and University College, Dundee—complicated as it is by the relationship of each to the University Commissioners and to the decisions of the law courts—can hardly be understood by an outsider, even if it is capable of being fully defined by the disputants themselves. But the policy of the dominant party in the University Court has been to push forward the suggestion that St. Andrews is quite independent of Dundee or that it is at least capable of supplying teaching in the majority of the subjects comprised in the medical curriculum. This policy led the court some little time since to determine to appoint lecturers in the subjects of anatomy and materia medica. A committee was appointed for this purpose and at a recent meeting of the Court submitted a recommendation that Dr. Musgrove of Edinburgh be appointed lecturer on Anatomy, and that the appointment to the lectureship on Materia Medica be deferred. The first part of the recommendation was accepted by the Court, but after a vote had been taken it was decided to appoint Dr. W. H. de Wyth lecturer on Materia Medica. The appointments are to last for five years. The Court has elected the following as examiners: Mr. G. G. Henderson, M.A., D.Sc., Professor in the West of Scotland Technical College, in Chemistry; Dr. D. Campbell Black, F.R.S.E., Professor in Anderson's College Medical School, Glasgow, in Physiology; Mr. J. H. Wilson, D.Sc., in Botany; and Mr. J. Arthur Thomson, M.A., F.R.S.E., in Natural History. Mr. Harry Kyle, M.A., B.Sc., has been awarded the Berry Scholarship in Natural Science. The Marquis of Bute, who

[1] Our Edinburgh correspondent's comments seemed to us to be just, timely, and to the point, and we had accordingly pleasure in printing them. We cannot but think, however, that Dr. Brock committed an error of judgment in reprinting the remarks of one of our Scottish correspondents in a manner which implied that they were editorial.—ED. L.

in virtue of his position as Lord Rector presides at the meetings of the Court, has intimated that he will at the next meeting propose that a woman be appointed assistant to Professor Pettigrew and lecturer on Physiology.

Lanark District Asylum, Hartwood.

Dr. A. Campbell Clark has published an interesting account of his first year's experience in the new asylum. The total number of cases admitted was 504—290 males and 214 females. Of these 75 were discharged and 20 patients died. It is noted that, a large number of the cases being transfers from the older asylums, there are at present at Hartwood an unusually large proportion of incurable cases; but of the cases directly admitted a very considerable percentage were also hopeless, and with many of them the mental breakdown was found to be associated with physical disease. The most common form of disease was associated with the organs of circulation—cardiac disease or degenerative changes in the arteries. In dealing with the subject of treatment it is stated that the administration of the thyroid gland has been tried in a number of cases; but whilst one patient is reported as "cured" and a number "improved," the results on the whole did not realise the claims which have been advanced for the thyroid treatment. The great value of the convenient and abundant hospital accommodation is alluded to and it is remarked that as many mental cases are the better for a day in bed occasionally the hospital is a quiet retreat for many of the inmates. Considerable attention is paid to the occupation and amusements of the patients. For the weekly dances the female patients are provided with ball dresses and the men with "additions to their toilet which take away the appearance of uniformity." Dr. Clark has a strong opinion on the dress provided for the inmates of asylums. He has no doubt that sack dresses for women and moleskins for men are in many cases utterly demoralising and that destructive tendencies would be reduced and self-respect increased by dressing the patients better.

Presentation to a Medical Man.

Dr. H. E. Jones has been presented with a handsome marble timepiece by the members of his ambulance class in connexion with the Govan Railway Station, Glasgow.

Aug. 11th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Additional Hospital Accommodation for South Dublin.

AT a meeting of the guardians of the South Dublin Union held on the 6th inst. a report of the committee appointed for the purpose of inquiring and reporting on the subject of providing for the establishment of additional hospital accommodation for the union was under discussion. The committee recommended that the offer of land comprising twenty-two acres and situated at the Crumlin-road be accepted and that the Local Government Board be asked to approve of this and of the borrowing of £2375 from the Board of Works. The chairman suggested that the report should not be finally adopted until due notice was given to the entire board, so that it might be fully considered. After some discussion that course was adopted.

Mater Misericordiæ Hospital, Dublin.

The following appointments have been made. To be Assistant Physician—Martin Dempsey, B.A., M.D., R.U.I. To be Assistant Surgeon—Alexander Blayney, M.A., M.B., B.Ch., R.U.I. To be Medical Registrar—John O'Donnell, M.B., B.Ch., R.U.I.

Compulsory Vaccination.

At a meeting of the Board of Guardians, held in Belfast on Aug. 4th, Dr. Clibborn, Local Government Board Inspector, drew attention to the unsatisfactory working of the Compulsory Vaccination Act. He thought it would be wise if some one person was appointed whose sole duty it would be to look after unvaccinated cases. If small-pox broke out those unvaccinated cases would be a source of great infection. During the last epidemic in Belfast, in the districts where vaccination had been properly attended to there were only one or two cases of variola reported and these were slight.

Fees of Medical Men.

The question of the fees to be paid to medical men for attending at assizes, inquests, &c., is one which gives rise to frequent discussions. At the recent inquiry held in the asylum Dr. Duncan, one of the residents at the Belfast Workhouse, was summoned by the inspectors of lunacy to give evidence, and at the meeting of the governors of the asylum held on Aug. 10th he sent in a claim for three guineas. As is usual on public boards some of the members demurred to paying this on the ground that Dr. Duncan was an official of the workhouse. Others thought the fee a fair one, and in the end it was decided to communicate with the inspectors (who held the inquiry and subpœnaed the medical man) on the subject.

The Death-rate of the City of Belfast.

At a meeting of the city council held on Aug. 1st one of the members proposed that a special committee of not more than nine members of the corporation be appointed to consider and report upon the present high death-rate of Belfast and the general unsatisfactory condition of the public health of the city, and to make such recommendations as it may deem necessary. Alderman Graham, M.D., R.U.I. (chairman of the Public Health Committee), in seconding the motion, which was passed, said they were in this extraordinary position in Belfast at present in that they only spent one-tenth of the money expended in other large towns on sanitation; but even notwithstanding this fact the death-rate was lower in many cases than in most of these large cities and towns (Dublin, Liverpool, Salford, and Manchester). Comparing such a city as Glasgow with Belfast, they would find that £121,000 was spent annually in the former while there was only £14,000 a year expended in Belfast. In Glasgow they had in this department of sanitation 13 clerks and 180 inspectors, while in Belfast they had only 2 clerks and 17 inspectors. The committee was appointed, but it is a great pity that none of the medical members of the corporation have been placed on it. The special committee appointed agreed to examine witnesses on the following points: (1) to inquire into and report on the work done by and the efficiency and sufficiency of the public health department; (2) the nature and extent of the supervision exercised by the public health or other department of the corporation over the sanitary condition of the sites on which houses are erected; (3) the nature and extent of the supervision exercised by these departments on the construction of waterclosets, dry-closets, sewers, and drains, and the means employed to test their efficiency before the houses are inhabited; (4) the nature and locality of the nuisances existing in Belfast which are injurious to public health, and what steps have been taken to abate them; (5) the condition of back passages, the building regulations applicable thereto, and how far such regulations are enforced; (6) the laws and bylaws relating to dry-closet accommodation, the nature and extent of such accommodation, and the mode of cleansing adopted; (7) the places where and the regulations under which ashpit cleansings are deposited; (8) to what extent the main drainage system carries off the drainage of the city; (9) the nature of the sanitary accommodation afforded to the workers in the mills, factories, and workshops in the city; and (10) the procedure adopted by the public health department to stamp out infectious disease, and any other matters which, in the opinion of the committee, may be considered relative to the inquiry. The committee will meet twice weekly.

Action for Libel against a Medical Man.

An important libel case was recently tried in the Dublin courts before the Lord Chief Justice. The plaintiff was a farmer's wife and the defendant was Mr. Russell, surgeon to the county infirmary, Tipperary. The plaintiff consulted the defendant owing to her having suffered from dyspareunia and he explained to her that an operation would make her all right. It would appear that her domestic relations were the reverse of happy. Her husband called her a hermaphrodite and used other opprobrious terms. On learning that she had consulted Mr. Russell he called on that gentleman to ascertain the state of affairs, and obtained from him a certificate of a nature which led him to announce his intention to seek for a judicial separation. Some time afterwards the plaintiff, his wife, consulted another practitioner in the neighbourhood, and was informed by him that there was no obstacle to completion of the matrimonial contract. She then instituted proceedings against Mr. Russell on the ground that he had not mentioned in his certificate given to her husband that her ailment was curable. At the

trial it was given in evidence that the patient when seen by Mr. Russell had been suffering from vaginismus, which condition was absent when she was examined by the second medical man. The judge put a series of written questions to be answered by the jury, and as some of the answers proved to be contradictory to the judicial mind it was found necessary to bring up the verdict for review by the three judges of the Queen's Bench. That court then entered a judgment in favour of the defendant. Much sympathy is felt for Mr. Russell, for though he has been successful in defending the action he must have suffered much mental anxiety, while his pecuniary loss is considerable. A suggestion has been made that a fund should be raised to indemnify him.

Aug. 12th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Heat and the Holy Father.

OUR Lady of Snow! When the town is deserted by all but those officially detained even the non-Catholic layman has special pleasure in assisting with Campagnuoli and fisher folk at the yearly function in S. Maria Maggiore, where, to the lovely music of Pergolesi or Palestrina, a continuous shower of white roseleaves from above keeps up as pleasing a snowfall effect as that in "Linda da Chamounix" or "The Bells." Few saints' days in the Eternal City are more attractive than that of Aug. 5th, when

"Sole dies referente siccos,"

as Horace sings in his incomparable description of an Italian midsummer, the Church commemorates the legend according to which a Roman patrician and his wife, having no children, vowed to the Virgin that they would bequeath to her their wealth if she would but let them know what form the bequest should take. On the eve of the fifth thanksgiving they were told in a dream that if on waking they found any spot covered with snow they were there to dedicate a basilica to the Mother of God. Next morning they took counsel with Pope Liberius, by whose advice they repaired to the Esquiline Hill, and there, sure enough, they found a fresh snow-heap that had fallen in the night. There, then, they built the noble basilica, otherwise called the Liberian, in memory of the reigning Pontiff—the finest church in Rome, according to Freeman—which annually draws to its sumptuous Borghese chapel the simple worshippers aforesaid to commemorate, under a pitiless blue sky, amid panting Nature and a palpitating air, the legend, so suggestively refrigerating, of "Our Lady of Snow." Returning from the beautiful function you pass here a "saliens" and there a fountain, the perennial plash of which, as it

"Shakes its loosened silver in the sun,"

makes you long to crouch under the leaf-like wave that descends over the rim of the "labrum" into the dancing pool below till you recall the exquisite passage in "The Marble Faun" where Hawthorne eulogises those bygone benefactors who, rather than rear for themselves a monument in brass on porphyry, have associated their names with ostensibly the least stable, but really the most enduring, record of all—the "upgush and downfall of water," the metal and stone monument having crumbled away while the fountain (because subserving a humane purpose) survives. Fortunate in such beautiful benefactions, Rome has none finer than those magnificent "salientes" in the Piazza of St. Peter's, supplied from the noble Acqua Paolina, which also feeds the innumerable runlets and "muscosi fontes" of the Vatican Gardens. There His Holiness Leo XIII. recovered from his recent illness, which was even graver than the political press was allowed to know, seeks refreshment from the "cares of spiritual empire"; there, "eighty-five years young," as an American friend described him, he visits the vineyards superintended by that excellent wine-grower, the Abbé Candeo, watching vigilantly for the slightest suspicion of the *peronospora*, and, as "lord of the vineyard," listening attentively to his steward's report and putting many a shrewd question on the prospects of the vintage. Of this Abbé Candeo has the most sanguine expectations, and promises his august master as dainty a supply of grapes as ever dignified dessert—their consumption, however, coming within the province of the Commendatore Dr. Lapponi, who, as body physician to the Holy Father, has an "Index Expurgatorius" of his own.

Is Ophthalmia Neonatorum Contagious to the Adult?

This question would appear to have had an affirmative answer in a deplorable tragedy just reported to me from Bergamo, in the Alta Italia. A humble family, Sala by name, living near Trezzo on the Adda, and composed of father, mother, and five children ranging from one to eleven years of age, had its youngest labouring under "oftalmia purulenta dei bambini," as the local registrar classifies it—the usual symptoms being very marked—swelling of the upper eyelids, tears of a yellowish or greenish-yellow colour, intensely red conjunctiva, steadily thickening and producing a kind of *ectropion fugax*, with muco-pus running down the cheeks inflaming the skin and imparting the repulsive aspect familiar in cases which do not terminate by resolution. The little sufferer soon lost its sight, and, apparently, owing to negligence in removing the soiled linen or avoiding contact with the same—a negligence unhappily common in such cases among the ignorant poor—the contagion passed to the mother, who, in turn, became blind. Then, in succession, each of the four other children caught the malady, which ran a uniformly unfavourable course, ending in loss of sight for all. Last of the household, the father became affected, and he, too, having passed the stage at which recovery is possible, has, like the rest, become blind. The narrative is a peculiarly distressing one, but unfortunately it has many counterparts in Italy. Independently of the interest attaching to it for its seeming proof that the disease may pass from the child to the adult, it illustrates the low resisting power to all maladies—infectious or contagious—inherent in the Italian poor, whose food, almost exclusively farinaceous, sometimes not even that, is far too deficient in the sustaining and invigorating principles which enable the upper and better-nourished classes to antagonise and get rid of such *materies morbi*. The feeding of her labouring, particularly her agricultural, population is one of the many problems in Italy which claim the serious intervention of the State; but in solving them she is certainly not assisted by her financial system, which, unsound in itself, is terribly overweighted by her "bloated armaments" (to use Lord Beaconsfield's phrase).

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Cholera Bulletins.

THE whole number of cases has now reached 14,443, showing 893 new cases during the last six days, or 149 per day, as compared with 246 per day a week ago. These figures must be distributed over nearly all the 3000 villages of which Egypt consists. In Alexandria there are still four or five dropping cases every day. In Cairo, still, one or two new cases are reported every morning, but in the most affected country districts there is everywhere a decided improvement. In Gharbiyeh province the average daily returns have fallen to 39, and in the Fayoum the figures have declined from 49 last week to 13 daily. This latter improvement is doubtless partly due to the Fayoum having already had its canals sluiced by the Nile flood. Even in Cairo the Nile is at least four feet higher than it was a month ago, and there is already quite a respectable current. In Charkiyeh province there are 18 cases a day, in the Egyptian Army 8 cases are reported, and the rest of Egypt gives a daily total of 65.

Charkiyeh Province.

Dr. Wilson has just come up to Cairo on business connected with his temporary cholera duties. He reports that the province is getting gradually clear of the disease, though the difficulties to contend with are still very great. A passively obstructive mudir, the ignorant criticism of Europeans and natives, the ingrained habits of preferring dirty water to clean, the uselessness of native doctors and other local officials unless working under the constant supervision of an Englishman, the number of miles which must be ridden every day in a roadless country under a tropical sun, the certainty that irresponsible helpers will neglect the most crucial part of a well-planned scheme unless they are constantly inspected,—all these and many others are difficulties attending the daily routine of cholera prevention. In Zagazig, the chief town of the province, besides the permanent hospital there is a cholera hospital, now containing

only five patients, while seven native doctors patrol the 400 villages of the province. Last November four sanitary committees, chiefly consisting of Greek residents, were initiated, but they were found to be useless and have since died a natural death.

Egyptian Army Convoy.

A few days ago I happened to see the first sick convoy arrive from the front. There was tremendous excitement among the discharged soldiers, women, and children as the train arrived at Abbassiyeh bringing direct news from the Soudan. There was plenty of hugging and kissing among the men and a general disposition on the part of the spectators to help a wounded man to limp anywhere or to assist in carrying his stretcher. There were fourteen wounded, mostly blacks, from Firkeh, but the bulk of the party consisted of those invalided from fever and dysentery, and terribly ill some of them looked.

The Vaccine Institute.

As in India and other hot countries, there is no great trouble to keep a supply of vaccine going during the cool months, but at the end of May failures begin to occur and in June and July the work of the Institute is almost impossible. It was suggested that calves should be operated upon in the dorsal region instead of the ventral, but this has not led to any better results. In the case of cow calves the lymph goes through four generations easily, but with buffalo calves the number may be raised to fifteen, and relatively a greater quantity of lymph is procured. Camel calves have not yet been experimented with. Vaccine lymph has been introduced many times from children to calves with success, but no experiments have been made with variolous lymph owing to the difficulty of getting it fresh.

Cairo, July 28th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Need for an Infectious Diseases Hospital in Melbourne.

SCARLET FEVER has been mildly epidemic in Melbourne lately, and its prevalence has again forcibly drawn attention to the absence of any proper means for the isolation and treatment of infectious diseases in public hospitals. All the hospitals, except the Melbourne Hospital, are prohibited by their rules from receiving such cases, and the accommodation at the Melbourne Hospital in the tents there provided for infectious and septic cases is very inadequate and the means of isolation are very imperfect. By the Health Act the municipal councils are empowered to provide hospitals for infectious disease, and conferences of the various metropolitan councils have been held, resolutions passed, and even plans for a hospital drawn up, but the lack of funds has prevented any further action. During the present outbreak of scarlet fever, however, the matter has been warmly taken up by the public press, and several prominent citizens have been impressed with the necessity of establishing some means for the isolation treatment of persons suffering from infectious disease. The Premier has promised a liberal support to the movement, the various medical societies have passed resolutions affirming the urgent necessity that exists for providing an infectious diseases hospital, and the municipal councils have held another conference on the subject. As a result of this conference a deputation waited on the managers of the Alfred Hospital to request that they would allow an unused wing there to be used for infectious cases, but the managers, on the advice of the medical staff, very properly refused, as it would be contrary to their rules, and be a danger to the inmates of the other parts of the hospital. So the matter rests, but public feeling is undoubtedly so much moved that a hospital will certainly be very soon established. The following figures compiled by the Chairman of the Board of Public Health are suggestive of the way in which the inhabitants of the metropolis have probably suffered from the want of such a hospital.

Deaths in Melbourne during the thirty years 1861—1890.

From croup and diphtheritic croup ...	1545	of which	27 took place in hospital.
Diphtheria	2733	,,	181 ,,
Measles	1762	,,	4 ,,
Scarlet fever	3232	,,	55 ,,
Whooping cough ...	2330	,,	3 ,,
Puerperal fever ...	329	,,	11 ,,

The Adelaide Hospital.

At the last meeting of the South Australian Branch of the British Medical Association a resolution was passed that the Branch viewed with disfavour and disappointment the proposals for clinical teaching contained in the report of the conference of the council of the University and the hospital board (as given in my last letter), and regarded the arrangement as impracticable and inadequate. The council of the University then wrote to the hospital board stating that three clinical lecturers would not be sufficient and suggesting that at least five be appointed. The board agreed to the proposal on the condition that Dr. Leith Napier and Dr. Smith, who have been appointed resident surgeon and resident physician respectively, should be two of the clinical lecturers.

Suspension of a Hospital Surgeon.

An unfortunate incident has occurred at the Sale Hospital, Victoria, leading to the suspension of one of the honorary surgeons. A patient was admitted under the care of the surgeon in question, with an ulcerating penile growth. The organ was removed, and subsequently the patient sought readmission, and when doing so desired to be placed under another surgeon. He was, however, again placed under the care of the same gentleman. On his discharge the patient lodged a complaint against him and charged him with want of skill and roughness in his treatment. The hospital committee made a careful inquiry, taking evidence from the other members of the staff, and finally suspended the gentleman complained of. The committee then remitted the matter to the subscribers to the hospital, who confirmed the action of the committee. As far as can be gathered the main complaint was that the operation was performed without consultation with the other members of the staff and without adequate assistance—on the occasion of the second operation, it was alleged, without any qualified assistant and without an anæsthetic.

New Operating Theatre for the Melbourne Hospital.

Mrs. Aubrey Bowen has presented the Melbourne Hospital with a new operating theatre as a memorial of her late husband, and the theatre was formally opened on May 27th by the Chief Justice. The new building is a handsome octagonal structure 27 ft. in diameter and of most modern design. The fittings are all of metal and the floor of tiles. A special feature of the equipment is a plant for sterilising the water used in the theatre. The lighting, however, is not satisfactory, the domed roof being closed in with embossed zinc instead of ground glass as the staff wished, and in consequence the theatre though formally opened has not yet been used. In declaring the theatre open the Chief Justice spoke in most eulogistic terms of the triumphs of surgery, and likened its practitioners to little short of gods in their restorative and almost creative scientific work.

The Practice of Pharmacy in New South Wales.

Under the present law in New South Wales almost anyone who wishes can go into business as a chemist and druggist. The law only interferes when the Sale and Use of Poisons Act is infringed; but as these unqualified persons who act as chemists all over the country are not registered there is practically no check. In a recent famous criminal case arsenic had been purchased from a person in business as a chemist, but not registered. Had he been registered he would have been compelled to keep a poisons book, and the purchase could have been traced, but not being of a certain status he did nothing of the kind, and the fact of the purchase was only ascertained with great difficulty. As the law stands, hospital wardsmen who have assisted in making up prescriptions, doctors' grooms, and sailors who have helped ship surgeons, carry on drug stores. Among the measures indicated in the Governor's speech is a Bill to amend the Pharmacy Law, and it is to be hoped it will be carried, but judging by the way the Medical Registration Bill has been repeatedly shelved, it is hardly likely that the Pharmacy Bill will fare better.

Successful Case of Splenectomy.

In the June number of the *Intercolonial Medical Journal of Australia*, Dr. A. A. Lendon records a successful case of splenectomy for a wandering and enlarged spleen. There was no leucocythæmia. This is stated by Dr. Lendon to be the first successful case in Australia.

Obituary.

JOHN BORLAND, M.D. GLASG.

DR. JOHN BORLAND of Kilmarnock, who died recently at the age of eighty-six years, was in many respects a remarkable man. Kilmarnock was his native place, and he began practice there as long ago as 1831, when the first cholera epidemic was raging. He had in the same year taken the degree of M.D. at Glasgow University, and from that time onwards for five-and-fifty years he led the active life of a busy country practitioner until his retirement became necessary a decade ago owing to advancing age and failing strength. There was no hospital in Kilmarnock when Dr. Borland was in his prime, but accidents to life and limb occurred then as now, and he soon established a local reputation as a successful surgeon. At the opening of the Kilmarnock Infirmary in 1868 he was about fifty-eight years of age and did not seek to join its staff, but he was vigorous in mind and body, and when an appointment was offered to him by the directors he willingly accepted it. Here he soon displayed remarkable surgical skill and ability, coupled with such a distaste for writing that he would rather perform half-a-dozen operations than have to sit down and make a report of the course and issue of a single one of them; neither did it occur to him that the results of his practice were worthy of collection and publication. About the years 1879 and 1880 controversy regarding the use of antiseptics in surgery was very active and scientific discussion did not keep itself quite free from personal feeling. In London, Edinburgh, Glasgow, and elsewhere elaborate statistics were published, and discourses were delivered by the Listerites and the anti-Listerites respectively contrasting the results of the old surgery and the new. In these circumstances a junior colleague of Dr. Borland, who had been a daily witness of his hospital practice, prepared and published a descriptive and statistical synopsis of it entitled, "Ten Years' Surgery in the Kilmarnock Infirmary." The ten years' work included 1448 cases, with a mortality of 3·5 per cent., or excluding cases which proved fatal in less than forty-eight hours 2·3 per cent. Among 900 cases with surface lesions the deaths were twenty-five, or 2·7 per cent. In twenty-seven major compound fractures there were no deaths; in fifty-four secondary major amputations, including nineteen of the thigh, there were two deaths; in 145 injuries there were four deaths; in 179 abscesses there were three deaths; and so on. For rather over the last two years of the period dealt with there had not been a single death among 421 cases, 90 operations (including 23 major amputations), 45 injuries, 52 abscesses, and 7 compound fractures. Dr. Borland was an anti-Listerite, as the practice of Listerism then was; his results were beyond question admirable and bore very favourable comparison with anything that had previously been published from any hospital in the kingdom. Since antiseptic surgery was first promulgated by Lister nearly thirty years ago its methods have undergone some very important changes. In 1879-80 carbolic putty and other early appliances had had their day and the carbolic spray treatment was at its zenith. Dr. Borland had no fear of atmospheric germs, but he believed thoroughly in the *vis medicatrix naturæ*, and from the results of experience independently of theory he arrived at the conclusion that dry dressing was the most reliable of all, with such modifications as might be required for individual cases. Catgut ligatures he never used and drainage tubes very seldom; silk thread served him both for ligatures and drainage. In an amputation no water or other liquid was applied to the surface and sponges were not used. Blood was mopped off with cloth rags, preferably with old shirting free from loose fibres. After all appreciable vessels had been tied the flaps were kept open ("to give the air germs a fair chance," he used to declare) until bleeding had entirely ceased and the whole surface had assumed a glazed appearance from exposure. The silk ligatures were brought out at the lower angle of the wound. In the absence of blood and of the irritation due to chemical applications like carbolic acid there was little effusion of serum to separate the flaps, drainage tubes were unnecessary, and the wound was left to heal in peace. A paper on the subject of Dr. Borland's hospital work was read at the meeting of the British Medical Association held at Cambridge in 1880.[1] His opinions and his practice were almost heretical at that time, but he lived to see the germ theory, in so far as it referred to atmospheric germs, publicly renounced by Lister himself and the carbolic spray almost universally discarded. Carbolic acid itself, as an application to wounds, is seldom used, catgut is more or less under suspicion, drainage tubes are in little favour, and silk thread is now declared to be almost aseptic. The present treatment of wounds in this country partakes to a great extent of the nature of dry dressing, with the addition of germicidal agents of some kind. On the Continent the aseptic surgery now in favour even more closely approaches to Dr. Borland's methods. Without suggesting that he was the only advocate of dry dressing or that he grasped the whole truth as to wound treatment, it may almost be said that modern surgery is a compromise between the Listerism and the dry dressing of 1880. Dr. Borland was an unswerving believer in the value of blood-letting in certain diseases, especially spasmodic croup, epistaxis, and acute pleurisy. In 1881 his fellow-townsmen collected £500 as a testimonial to him on the occasion of his completing fifty years of work among them, and when he retired from practice in 1886 his portrait in oil was subscribed for and presented to the Infirmary. The funeral took place at Kilmarnock, but the closing years of his life had been passed at Uddingston, on the upper part of the River Clyde.

JAMES ANDREW SANDILANDS GRANT (GRANT BEY), A.M., M.D., C.M., LL.D. ABERD., M.D. (HON.), CHICAGO.

WE regret to announce the death of a professional colleague whose talents and industry secured for him a high position in the service of the Egyptian Government, and made his name widely known among travellers in the East as well as among all those who take an interest in the sanitary condition of Egypt and its suitability as a place of residence for Europeans. Dr. Grant was born in 1840 at Methlick in Aberdeenshire, studied medicine at Aberdeen University, and graduated there as M.D. in 1864. In 1865 he received a temporary appointment at Alexandria in Egypt, and his services in connexion with an outbreak of cholera in that city were so much appreciated that Ismail Pasha conferred on him the rank of Chevalier of the Order of the Medjidieh. In 1867 he became medical superintendent of the Banff District Lunatic Asylum; in 1868 he settled in Cairo, having received an appointment in connexion with the Egyptian Government railways; and in 1880 the Khedive, Tewfik Pasha, conferred on him the military title of Bey. In 1882 Arabi's rebellion forced him to take refuge on board a British war vessel at Alexandria during the bombardment. In 1883 his opinion that an outbreak of cholera at Damietta was due to importation of the disease from India was warmly opposed by many other medical men and led to a prolonged controversy. Grant Bey was an accomplished Arabic scholar and Egyptologist; he was for a time co-editor of the Arabic medical journal *El Shiffa*, and was the author of many papers on Egyptian hygiene which appeared in various medical journals and other publications, one of the earliest being an article on the Climate of Egypt, published in 1874 in "Murray's Handbook for Egypt." He arrived in London a few weeks ago suffering from the after-effects of influenza, and proceeded to Bridge of Allan in Stirlingshire, where he died somewhat suddenly on July 28th. Grant Bey was twice married; he leaves a widow and family.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent medical men are announced:—Dr. Després, Surgeon to the Paris Hospitals.—Dr. Montaz, Professor of Physiology in Grenoble.—Dr. Rudolf von Frey, Assistant to the Professor of Surgery in the German University of Prague, suddenly of heart disease in Berlin, whither he had gone to fetch the body of his father, who had died there after an operation.—Dr. Nicaise, Surgeon to the Paris Hospitals.—Dr. Escalona, Professor of Anatomy in Caracas, and Dr. José Urbano, a former Professor in the same medical school.—Dr. E. B. Stevens, of Cincinnati Miami Medical College.—Dr. Hun, Professor in the Albany Medical College, U.S.A.

[1] THE LANCET, Aug. 14th, 1880, p. 276, and Aug. 21st, 1880, p. 302.

THE BRITISH MEDICAL ASSOCIATION.

MEETING AT CARLISLE.

THE annual dinner of the Association was held in the New Public Market on the evening of Friday, July 31st. Dr. Henry Barnes presided and some 200 guests were present. The Bishop of Carlisle, the Mayor of Carlisle, Dr. Saundby, Surgeon-Captain Whitchurch, V.C., Dr. Maclaren, Dr. Unna, and Sir Thomas Grainger Stewart were among the speakers, and their words were very hearty and enthusiastic.

On the same evening a dance was given in the large ball-room of the County Hotel by the Mayor of Carlisle. This was largely attended by the members of the Association and by the officers of the regiment quartered in the city. The music and the floor being both good a pleasant evening was spent.

On Saturday there were excursions to Derwentwater, Abbotsford, Moffat and St. Mary's Loch, Naworth and Lanercost among other places.

The general impression that all the visitors carried away from Carlisle was that they had had a very pleasant meeting. The Sections were fairly well attended, some of the debates were very interesting, the pathological museum was a well-arranged and excellent collection, the social functions were enjoyable, and, lastly, the organisation was very good. For this the visitors had in the first place, as in so many previous years, to thank Mr. Fowke, the general secretary of the Association; but the success of Mr. Fowke's efforts was much enhanced by the admirable way in which the local arrangements were carried out by Dr. Henry Barnes, the President of the Association, Dr. Helm, and Dr. Roderick Maclaren, each and all of whom spared no trouble to make the meeting at Carlisle a memorable one.

SURGERY.

FRIDAY, JULY 31ST.

The Surgery of the Sub-peritoneal Tissue.

Mr. WILLIAM ANDERSON (London) read a paper on the Surgery of the Sub-peritoneal Tissue. He remarked that neither Quain's nor Gray's Anatomy mentioned the sub-peritoneal tissue. At an early stage of development it could be recognised as a mesoblastic mass surrounding the great vessels of the abdomen; it was carried with the vessels into all the abdominal viscera; one process of it surrounded the kidney and another entered the mesentery; it surrounded the liver, fixing it to the diaphragm, and also penetrated its substance in the form of Glisson's capsule. The amount varied greatly in different parts. It consists of highly elastic connective tissue, with a variable amount of fat and some involuntary muscular fibres. There is a portion of the circumference of the small intestine which is uncovered by peritoneum; this portion is in close contact with the sub-peritoneal tissue. In the broad ligament the sub-peritoneal tissue is in intimate relation with the ovary and Fallopian tubes. It is loosely attached to the parietal peritoneum and the fasciæ lining the abdomen, but it cannot be demonstrated in places where it is firmly attached to the viscera. From its structure it is liable to certain new growths; it lies in close contact with the pelvic wall and the vertebræ, and so all diseases of these structures will affect it. It is also necessarily implicated by everything which affects the peritoneum. The varieties of inflammation of the sub-peritoneal tissue may be grouped regionally or etiologically; the latter is the more modern. The regional groups include (1) the retro-peritoneal, (2) the sub-phrenic, (3) the perinephric, (4) the iliac, (5) the pelvic, and (6) the prevesical. The etiological classification is of more value. It includes the idiopathic, tuberculous, syphilitic, metastatic, traumatic, and consecutive forms; this last is the most extensive. A sub-peritoneal abscess may arise in the tissue itself or in structures around it or even in structures outside the abdomen, as after varicocele. Chopart gives a case where a sub-peritoneal abscess arose after castration. Whatever the origin of a sub-peritoneal abscess it may involve any portion of the sub-peritoneal space. The tissue may be implicated directly or indirectly from a viscus, either by direct contact or by perforation after peritoneal adhesions or by a localised peritonitis. Sub-peritoneal abscesses always tend to reach the surface. An intra-peritoneal abscess generally opens into a viscus; this is rare in the case of a sub-peritoneal abscess. The new growths of the tissue are but little known. The lipoma may grow very rapidly and to an enormous size and surround the abdominal vessels. As a rule, most patients have died from shock. There is a hernial variety of the lipoma, which may simulate a hernia and may reach the weight of 14 lb.; it is most commonly met with in the inguinal canal; it prepares the way for a true hernia by drawing down a pouch of peritoneum. The fibromata may reach a large size, and it is generally very dangerous to interfere with them. The myomata contain involuntary muscular fibres. Sarcomata are not rare; they are utterly beyond treatment. Hæmorrhages may occur into the tissue, as by the rupture of an aneurysm. Lymph exudations may also occur; and other matters, such as bile or fæces, may be extravasated into the tissue. Gaseous infiltrations may occur and be derived either from the lungs or from the bowel. There is an atrophic form, which may give rise to movable kidney, especially in women.

Dr. MACDOUGALL said that in cases of appendicitis the results were very grave when the sub-peritoneal tissue became involved. He had seen a case of ovariotomy where the patient became exceedingly pale and looked as if there were internal hæmorrhage, but she rapidly recovered after an abscess had been opened in the sub-peritoneal tissue of the anterior abdominal wall. He remembered, also, a case of sarcoma of this tissue which had been mistaken for a sarcoma of the kidney.

Mr. C. A. MORTON (Bristol) had recently seen a case where a sarcoma growing from the sub-peritoneal tissue of the pelvis had caused complete retention of urine in a child. He had seen also a case of a large abscess developing behind the mesentery caused by a fish-bone perforating the bowel wall.

Professor OGSTON (Aberdeen) considered Mr. Anderson's paper an epoch-making one. He mentioned a case he had seen of a young woman under twenty years of age with an enormous abdomen due to a lipoma of the sub-peritoneal tissue; the intestine was in the substance of the tumour; there was no general wasting. He had also seen a case where general hypertrophy of the sub-peritoneal and omental fat had simulated a tumour. He mentioned also a case of a myoma involving the left ureter in which it was necessary to excise the portion of ureter in connexion with the tumour. He inserted the proximal portion of the ureter in the distal and stitched it round, with a perfect result.

Dr. LAUENSTEIN (Hamburg) mentioned a case where a large abscess had developed in the sub-peritoneal tissue of the right side of the pelvis, though it was necessary ultimately to open it in the left ischio-rectal fossa.

Mr. W. ANDERSON, in reply, thanked those who had spoken, and remarked that there was an immense amount of information on the subject scattered about, but it had never been collected.

The Use of Tuberculin in Surgical Diagnosis.

Dr. SANDBERG (Bergen) read a paper on the Use of Tuberculin in Surgical Diagnosis. He remarked that the reaction against tuberculin had probably gone too far. The surgical treatment of tuberculous joints is not satisfactory; arthrectomy has displaced excision in the hope of obtaining better movement, but not very successfully, and injections have attempted to replace arthrectomy. He had tried the effect of tuberculin in thirty cases, and though he did not think that any harm had resulted yet he was not sure that any marked improvement had been due to the tuberculin. But in some cases it could be used to determine if all the tuberculous disease had been removed, and to this limited extent it might be useful.

Disinfection of the Hands.

Dr. LEEDHAM-GREEN read a paper on the Disinfection of the Hands. The method employed to test the condition of the hands was to scrape the skin with small ivory slips and

also to scrape under the nails. The slips were then dropped into tubes of agar-agar. Simple washing, washing with sand and with turpentine all gave results indicating a septic condition of the hands. Alcohol gave better results, but these were by no means perfect. A further series of experiments was made with hands which had been purposely rendered septic before the cleaning process was commenced, with a similar result. Antiseptics (chiefly perchloride of mercury, 1 in 1000) were also used with results but little more encouraging.

Intussusception.

Dr. J. C. RENTON (Glasgow) read a paper on Three Cases of Intussusception in which operation was successful. The children were of the ages of ten months, eleven months, and three months, and they all recovered rapidly and completely after laparotomy. There can be no use in waiting: the operation should be performed early. Rapidity in operating was also of great importance. He showed a bowel clamp which he had found of much use in operating. If the patient is very weak a local anæsthetic only should be used.

Some Recent Modifications in the Operative Treatment of Diseases of the Attic and Mastoid Process.

Dr. ADOLPH BRONNER (Bradford) read a paper on Some Recent Modifications in the Operative Treatment of Diseases of the Attic and Mastoid Process. He said that many surgeons were in favour of making a permanent opening behind the ear, but this required frequent dressing for a long time, and a preferable method was to make an opening from the external auditory meatus into the mastoid, making at the same time two flaps of skin, which were stitched backwards into the sides of the wound so as to form a permanent opening. The danger of the operation was slight if the surgeon possessed a good knowledge of anatomy. The results were good.

Two Cases of Jacksonian Epilepsy treated by Operation.

Mr. ALBERT MORISON (Hartlepool) contributed a paper on Two Cases of Jacksonian Epilepsy treated by Operation with a New Method for defining the Fissure of Rolando. The first case was that of a young man who had fits of increasing severity on the right side; they commenced in the right toe. The skull was opened and a collection of two ounces of straw-coloured fluid was found in the sub-arachnoid space. The recovery was rapid and perfect. In the second case the fits commenced two days after a severe blow on the head. On raising the scalp flap a fissured fracture was seen. The bone was trephined and some clot removed. Except for some slight twitchings in the arm the recovery was uneventful. The method Mr. Morison suggests for finding the fissure of Rolando is to take a point half way between the glabella and the external occipital protuberance, and then to take a point the breadth of the little finger behind it. An isosceles triangle is then mapped out on the scalp; its sides are 3¾ in. long, and one lies in the middle line with the apex at the point mentioned above. The base is anterior and measures 4¼ in. The posterior side of the triangle is over the fissure of Rolando.

"X" Ray Demonstration with Special Reference to the Soft Tissues.

Dr. J. MACINTYRE gave a demonstration to the Section. He first described the apparatus by means of which he had first obtained results in his attempts to photograph and see on screens the deeper-seated structures of the body. He first pointed out that in photographing the lower animals he had got fairly satisfactory shadows of certain organs within the cavities. Proceeding to make a series of experiments he had found, contrary to expectation, that greater currents were required. One might have thought that if photographs of the bones were to be got with certain apparatus in a given time then by diminishing the exposures it might be possible to catch the soft tissues before they disappeared. This was not altogether true, although in certain experiments by this method he had been able to photograph the bones and flesh in such a way as to show hip-joint disease with the internal pathological changes and external deformities seen on the same plate. They had to remember, however, that to obtain good results it was necessary to place the focus-tube a long way from the body, the distance increasing as the object to be photographed was situated far from the plate. Further, in the centres, particularly the heart, the tissues were dense, and for these and other reasons it was necessary to use large currents. He described his methods of obtaining sharp definitions and how they might photograph and see organs in different planes of the body. By this means they could photograph the spine and omit the heart and sternum, and, on the other hand, the latter could be got and the spine omitted. In the same way any part of the cranium could be selected for photography. He used heavy currents, as high as 30 ampères, carefully measuring them on Lord Kelvin's ampère gauge and coil tester. His coil took heavy currents through the primary wires, and great attention was paid to the interrupter, which for rapid exposure was of the mercury form. He described his methods of obtaining instantaneous photography, but pointed out that this could not yet apply to the trunk and denser parts of the body. For screen purposes he used the barium salt often, and in some instances thought it better than the potassium platino-cyanide. Whether this might be true or not he now limited himself to these two salts after trying many different kinds in the preparation of fluorescent screens. Dr. Macintyre then proceeded to compare the use of fluorescent screens and photography, and said he had been able to see shot in the scalp in one case, and that some foreign bodies were easily seen in the tissue of the neck. He had seen most parts of the face and some of the tissues of the neck. Passing to the chest he saw deposits in the apex in one case thrown as a shadow on the fluorescent screen. The limits of the pleural cavities, the heart in movement, the diaphragm in action, enlargement of the heart; liver, &c., had all been seen. Passing further to the question of photography he demonstrated, by means of the magic-lantern slide, specimens of fracture of the skull in which the differential diagnosis between pressure from effusion and the presence of a bullet had been made in a case of paralysis of the extremities. The tissues of the larynx, the whole thorax in one plate, with both shoulders and both elbows, were also thrown upon the screen. Photographs of the heart, diaphragm, liver, and these in health as well as hypertrophied, were exhibited. A case of renal calculus photographed and since successfully operated upon was described. A large number of other examples of normal and diseased structures in the lower animal kingdom and in man were also shown, as well as specimens of instantaneous photography. Nearly a hundred "x" photographs were also exhibited as prints and hung round the walls.

OBSTETRICS.

FRIDAY, JULY 31st.

The Relative Advantages of Forceps and Version in Cases of Moderate Pelvic Contraction.

Dr. MILNE MURRAY (Edinburgh) opened the discussion on this subject. He said that by the use of forceps intra-uterine manipulation is avoided and also the dangers of compression of the cord and traction on the neck to which the child is exposed after the performance of podalic version. In cases of flat pelvis the ordinary long forceps are not very satisfactory and it was thought that this was due to the compression of the child's head by the blades, in the transverse diameter of the pelvis and the consequent bulging of the head in the conjugate diameter. This, however, is not the true explanation, as with the head lying transversely at the brim he has found it possible to compress it with the forceps to the extent of one and a half inches without giving rise to any bulging in the opposite diameter. Under such circumstances the head swells vertically by a kind of telescopic action. The real difficulty of delivering the head through a flattened brim by means of long forceps was that they did not enable traction to be made in the axis of the inlet, and the amount of force wanted is greater when the pelvis is flat than when it is normal. By the axis traction principle this difficulty is entirely overcome, as by means of axis-traction rods the line of traction can be made to coincide with the axis of the inlet and the angle of error is thus abolished; even in cases where the head has not yet entered the brim and no lateral tilting has occurred it is possible to deliver with axis-traction forceps, and with such an instrument he has delivered on several occasions living children through a conjugate of three and a quarter inches. A pair of forceps made to coincide with the curve of the normal pelvis is not quite suited for cases where the pelvis is flat. To overcome this difficulty Dr. Murray has invented an instrument called the adjustable axis-traction forceps. The traction rods are carried down for some distance, and then pass backwards at right angles, giving a horizontal limb. The handle is slipped

on to the horizontal limb and can be adjusted at any point according to circumstances. To throw the angle of traction further back, as is desirable in cases where the pelvis is flat, the traction handle is slipped along the bars to a greater distance from the handles than usual. Dr. Murray concluded by affirming his belief that any case in which turning is indicated can be more safely dealt with by means of axis-traction forceps.

Dr. PURSLOW (Birmingham) did not entirely condemn version, and the common objection that if perforation is necessary it is more difficult to perform it when the head comes last is not, in his opinion, true.

Dr. FOTHERGILL said that in his opinion there was nothing to be claimed in favour of version except its antiquity. He did not believe in the advantage of the wedge which was supposed to be obtained when the base of the skull came first, because the pressure from above, which was almost always made during the extraction of the head, counteracted this advantage by flattening the head down. He referred to six cases of flattened pelvis in which he had delivered living children by means of Milne Murray's axis-traction forceps.

Dr. MUNRO KERR (Glasgow) questioned whether in a flat pelvis the blades of the forceps were ever applied over the forehead and occiput, but thought that one usually lay to one side of the occiput and the other to one side of the forehead. If the head was grasped thus obliquely it would bulge in the conjugate diameter of the brim. It was not uncommon to find that the pelvis had more room on one side than the other, and the ease or difficulty in delivery depended on whether the occiput was directed to the roomy or small side of the pelvis. He thought that in such cases if the occiput was directed to the small side it was best to do version, whereas if it was directed to the roomy side forceps were the proper treatment.

Dr. MURDOCH CAMERON (Glasgow) also referred to pelves where there was more room on one side than the other, and pointed out how a woman might have a stillborn baby if the occiput was directed to the narrow side and might be delivered spontaneously if the occiput was directed to the opposite side. He showed and described a form of forceps by means of which the head can be grasped in the biparietal diameter whilst it is lying transversely at the brim. The instrument is easily applied and admits of traction being made in the axis of the brim. He pointed out that one of the commonest causes of the forceps slipping off when traction was made was that the occiput was directed backwards. Under such circumstances the occiput should be rotated forwards by the hand and the forceps then reapplied.

Dr. CONNEL also concurred that axis-traction forceps were very superior to version as a method of delivery, and that in all cases forceps with axis-traction rods are to be used in preference to the ordinary long forceps. He believed that by their use the perineum could often be saved, and, in conclusion, further emphasised his strong adherence to the axis-traction principle.

Dr. MILNE MURRAY replied.

Papers were read by Mr. CHRISTOPHER MARTIN on Hæmatometra and Pyometra; by Dr. MURDOCH CAMERON on Retroversion of the Pregnant Uterus, Reducible and Irreducible, with a New Method of Treatment; by Dr. FOTHERGILL on Walcher's Position; and by Dr. LE BEC on Hysterectomy for Large Fibroids.

Dr. GUNN BANNERMAN showed an infant suffering from a condition which was provisionally described as Nævus Pigmentosus. The child was a year old, healthy, and well-nourished. Nearly the whole of the cutaneous surface of the central part of the body was occupied by a large pigmented mole, from which hairs were growing. Large pigmented spots were present on the head, shoulders, and arms. The spots varied in colour from a light brown to an ebony black, and the surface of them was smooth and slightly raised. The surface of the large pigmented area occupying the abdomen, back, and groins was rough and emitted an offensive odour.

PUBLIC MEDICINE.

FRIDAY, JULY 31ST.

The Treatment of Domestic Slop-water in Isolated Houses.

Dr. POORE (London) read a paper on the Treatment of Domestic Slop-water in Isolated Houses. He said that slop-water free from fæces was not offensive when fresh and with a healthy household was not dangerous, but slop-water containing fæces was such an abominable mixture that it is necessary to place it instantly beyond reach of the nose and eye. He estimated the domestic slop-water of a household of seven persons at 59 gallons per day without fixed baths or laundry and at 140 gallons per day with fixed baths and laundry. The former amount would be equal to an inch of rain upon an acre of land in 384 days, and the latter amount equal to an inch in 162 days. Dr. Tidy estimated that an acre of land might be sufficient for the purification of the precipitated sewage of 7000 persons by intermittent downward filtration. At this estimate a household of seven persons would require 4·84 square yards, or a space of less than 7 ft. × 7 ft. Even multiplying this estimate by 10 the amount of land necessary is very small, and, indeed, domestic slops were in amount quite trivial. Domestic slop-water wisely used made in a year of drought such as the present all the difference to the appearance and productiveness of a garden plot, and in a year of floods they made no appreciable difference whatever. There were no difficulties whatever in dealing with domestic slop-water if the following principles were kept in mind:—1. All waste-pipes should terminate well above the level of the ground. Allowing a rapid fall, such as 1 in 10, it was evident that for every foot above the ground level at which a waste-pipe terminated it would be possible to deliver the waste 10 ft. from the house. There was no difficulty in getting the waste of the first floor over a path and if necessary a rustic arch would serve the purpose. With a rapid direct fall there was little trouble from frost, but of course, if necessary, it was easy to pack the pipes and make them frost-proof. 2. No stagnation must be allowed anywhere along the line of drainage. Traps of all kinds inevitably encouraged putrefaction and were inadmissible. When waste-pipes had a rapid direct fall and were open to the air at their lower end they never became foul. 3. All slop-water must be freely exposed to the air and must run in open gutters. The form of gutter which Dr. Poore had found to answer capitally was one having a floor of perforated tiles (malt-kiln tiles) placed upon a couple of feet or so of porous material, such as builders' rubbish, and with sides made of brick or concrete. The sides of the gutter should be planted with privet or other quick-growing shrubs, which in a very short time would completely hide the gutter. Such a gutter might with advantage be placed upon a bank formed of porous rubbish with earthen sides, which should be planted so as to form a hedge. The perforated tiles were used in order that the gutter might be swept clean at intervals of dead leaves and other solid particles which inevitably found their way into it. 4. The kitchen and pantry sinks contained dissolved and suspended matter which soon became foul. He advised that sink-baskets should always be used for these, and, further, he advised that these slops should be passed through a special filter of stones and rubbish before flowing to the open gutter. It was imperative that the waste-pipes should terminate at least 2 ft. above the ground level, and if necessary the sink should be placed upon a platform in order to increase the fall. The waste-pipe of the kitchen sink should be provided with an outside and reversible nozzle projecting over a duplicated vessel, either of concrete or iron, each half of which should be 1½ ft. by 1½ ft. and 2 ft. high. Each half of this vessel should be filled with stones from the size of a walnut to that of a hazel nut, and be fitted with a movable fine copper grating on the top. The slops flowed successively through the sink-basket, the filter grating, and the stones, and when one half became foul the nozzle was reversed and the second half came into use, and the stones in the other half might be changed. The outlet of the filter was just above the ground level, and the waste might run for a short distance in an impermeable gutter before reaching the perforated slop gutter. These methods had been tried by him during the last nine years and had yielded the following results:—1. The waste of a fixed bath had been taken for nine years by a gutter merely made in the earth with a trowel running at the foot of a hedge. This gutter had taken as much as 120 or 130 gallons a day and had never given any trouble whatever, nor did it seem likely that it ever would do. 2 The bedroom slops of a cottage having five inhabitants had run in a similar gutter at the foot of the hedge for nine years, and this mixture of soapy water and urine flowing directly on to the earth had never been in the least foul except on one occasion when he experimented with a trap-like contrivance which produced stagnation and which was followed by abominable

foulness. 3. He had provided 40 feet of gutters for a school with thirty or forty day scholars and boarders, and the slops had never travelled more than some six feet. It had never been foul in the last two years and the privets grew vigorously. 4. Similarly he had provided an open gutter with perforated floor for a country house having thirteen inmates and ten servants. This ran through a plantation. The trees threw up abundant suckers, but there was no foulness.

Dr. THRESH (Chelmsford) said that in country districts he had adopted the gutter described for house and kitchen slops. The trench was dug in gravel, and he quite agreed with Dr. Poore as to the extremely short length of gutter that sufficed for two or three houses. The gutter should not commence too near the house, which could be managed by carrying the discharge-pipe a yard or two away from the walls.

Dr. MAXWELL ROSS (Dumfries) said that the teachings of Dr. Poore were now being widely adopted in Scotland.

The Disinfection of Rooms by Sulphurous Acid Gas.

Dr. KENWOOD (London) then read a paper on the Disinfection of Rooms by Sulphurous Acid Gas. He said:—It is claimed, mainly on bacteriological grounds, that the gas generated by the combustion of 1 lb. of sulphur in 1000 cubic feet of space fails to kill the specific organisms of infectious disease, and if this is a fact it is evident that the process must fail in practice. I have, however, investigated the evidence furnished during the year 1895 in a population of 254,000 people inhabiting six sanitary areas in and around London, and in order to make out the worst possible case against the method the view may be adopted that all secondary cases of scarlet fever and diphtheria which occur on the same premises within fourteen days after the fumigation of such infected premises with sulphurous acid gas are due to imperfect disinfection; even then it will be found that the number is very small. There were in all 1330 premises disinfected by the local authorities on account of these two diseases, 409 in respect of diphtheria, and 921 in respect of scarlet fever, sulphurous acid gas being employed in every case; and altogether there were 55 cases of either scarlet fever or diphtheria which would fall under the above category. Sulphurous acid disinfection, therefore, failed not more than 4·1 times in every 100, which will serve to show that if disinfection is necessary at all then the common and official method is not "useless." What is required of the method is that it shall disinfect the walls, ceiling, floor, and bare surfaces in a room. No one contends that it—any more than the French and German official methods—has sufficient penetrating power into the bedding, clothing, carpets, curtains, &c. These can and should be removed for steam disinfection. Our method consists of two stages:—(1) the charging of the atmosphere for from six to eight hours with about 1 per cent. of sulphurous acid gas by means of burning one pound of sulphur to every 1000 cubic feet of space in the room, and (2) the thorough aeration of the room. In a few bacteriological experiments conducted by Mr. Severn and himself they directed their attention principally to the Klebs-Löffler bacillus of diphtheria for the following reasons:—It is concerned in the production of one of the diseases in which the disinfecting power of sulphurous acid is most commonly relied upon, it is easily cultivated, and its cultures are unmistakeable. The room employed in these experiments was in his own house; it was nearly square in form, 8ft. 8in. in height, and had a capacity of 2004 cubic feet. Before each experiment it was left at rest for some time; the inoculated swabs, &c., were then placed in position and the room was then treated by the man who does the disinfecting work of the parish precisely as if there had been a case of infectious illness in it. Each experiment comprised six different tests applied at the same time at three different levels in the room—viz., at the level of the floor, on a sideboard 3ft. 8in. from the floor, and on a bracket 6ft. 6in. from the floor—and the experiment aimed solely at determining the effect produced by an exposure for from six to eight hours to an atmosphere containing an amount of sulphurous acid gas not exceeding 1 per cent. The apparatus used consisted of: (*a*) *Swabs.*—These were pieces of glass rod drawn out and fused into a ball at the drawn-out end, with cotton wool carefully twisted round the narrow part to a little over the diameter of the wide part of the glass rod. A second thick band of wool was well twisted round the rod lower down to serve as a plug for the protecting test tube used to cover the swab. The whole arrangement was sterilised in the oven, and inoculated with bacillus diphtheriæ by gently passing the wool over the sloping surface of a serum culture. These swabs were taken into the room and the protecting tube removed, thus exposing the bacilli on the wool to the direct action of the gas. Afterwards the swab was rubbed on the surface of a sterile serum tube, which was placed in the incubator at 33-35° C., to ascertain if any development of bacillus diphtheriæ took place. (*b*) *Lints.*—These were pieces of lint two inches by one inch placed in Petri dishes, two in each dish, which was then sterilised in the oven at from 160° to 180° C. One piece of lint received with a sterilised spatulate platinum needle a streak of bacillus diphtheriæ, and the other a streak of either staphylococcus aureus or streptococcus pyogenes. The lid of the dish was removed in the room and replaced after the fumigation. Then each piece of lint was rubbed on the surface of Löffler's alkaline serum bouillon and hydrocele glycerin agar and the tubes were placed in the incubator. Each special test in each of the four series of experiments was duly controlled; thus, for every two or three swabs used another similar swab was kept, after being infected for a similar period, and rubbed on the surface of the nutritive medium at the same time as the swab which had been exposed to the gas. Similar checks were applied to the pieces of lint. The control tests showed active and typical growth in every case. In the first series all three swabs and all three lints were sterile. In the second series a serum tube inoculated from one swab showed a late (inhibited) growth of the Klebs-Löffler bacillus after three days, but no growth was obtained from the other two swabs or from the three lints. In the third and fourth series no growth of bacillus diphtheriæ was obtained from any of the swabs or lints. In one or two instances out of the twenty-four experiments growths of aerial impurities appeared in the culture media, but neither staphylococci nor streptococci grew in any of the experiments after disinfection. In the first three experiments Petri dishes of solidified serum inoculated on the surface with streaks of bacillus diphtheriæ were also employed as a further experiment. In all but two cases (one in each of the first two series) these, somewhat to their surprise, were also rendered sterile, and in the two instances referred to the growth was remarkably inhibited. In Series 1 and 2 one tube of liquefied sulphurous gas alleged to contain 20 oz. was employed in each case. In Series 3 two such tubes were employed. In Series 4 two sulphur candles were burnt, each containing 1 lb. of sulphur. After each of the two series of experiments the room was entirely freed from the sulphurous acid gas and then exposed again to the disinfectant precisely as it had been in the experiments, and after two hours Dr. Kenwood entered the room with his mouth and nose protected by a handkerchief moistened with a solution of washing soda and took a sample of the air towards the centre and at the level of half the height of the room. The whole of the sulphurous acid in each sample was then oxidised by means of a dilute solution of bromine in water, the sulphuric acid was precipitated as barium sulphate, and the proportion of sulphurous acid gas calculated. Where one tube of liquefied sulphurous acid alleged to contain twenty ounces was employed (Series 1 and 2) the sample of air taken after four hours furnished 0·26 per cent. of sulphuric acid gas in Experiment 1 and 0·25 per cent. in Experiment 2. Where two tubes of liquefied gas, each alleged to contain twenty ounces, were used (Series 3) the air showed 0·50 per cent. of sulphurous acid, and where two sulphur candles, each alleged to contain one pound of sulphur, were employed (Series 4) it showed 0·88 per cent. Therefore, where the bacillus diphtheriæ was not killed it was very markedly inhibited, even when the sulphurous acid gas did not much exceed ¼ per cent., and it was killed when the gas exceeded ½ per cent., the above figures having sole reference to the gas in the air in the centre of the room at a height of four feet and after the lapse of four hours. In the face of these facts is it necessary to make a change? and, if so, is one of the continental methods preferable to the employment of a gaseous disinfectant? In France the official method is to moisten walls, floors, and whatever cannot be removed from the room and taken to the disinfectant station by means of a spray of a 1 in 1000 solution of the perchloride of mercury. The spray is produced by a portable force-pump fitted with a long nozzle, and the apparatus is called a "pulverisateur." The operation of disinfecting a room only occupies one hour. The German official method is to rub down the wall with bread;

ordinary German loaves forty-eight hours old are employed, cut into pieces six inches square, with the crust at the back to afford a firm hold. The crumbs having been swept up and burnt, the walls and ceilings are thoroughly sprinkled with weak carbolic solution and the floors and furniture are washed in this solution.

Dr. SYMONS (Bath) thought that for disinfection compressed sulphurous acid gas was preferable to the burning of sulphur, but he regarded the previous use of the steam kettle for an hour as indispensable.

Sir CHARLES CAMERON (Dublin) said he made use of the spraying system. The walls were then stripped or hot-lime-washed, the woodwork was washed with carbolic acid soap, and everything that could be removed was disinfected by means of steam under pressure.

Dr. KENWOOD, in reply, stated that he much preferred burned sulphur to the compressed gas.

An Outbreak of Enteric Fever due to Infected Milk.

Sir CHARLES A. CAMERON, Medical Officer of Health of Dublin, then described an Outbreak of Enteric Fever due to Infected Milk. Having heard that four persons were affected with enteric fever who had been supplied with milk from a small dairy in Meath-street, Dublin, he visited the dairy and found two little girls suffering from enteric fever. He had them at once removed and the milk found in the dairy was destroyed. Subsequently he found that fourteen persons who had consumed milk supplied from this dairy since the illness of the children were affected with enteric fever. The dairy was supplied with high-pressure water of good quality and the cows were out at grass. Pollution from infected water was therefore highly improbable. The emanations from typhoid dejecta were probably absorbed by the milk, which was stored in a very small room close to, and past, which the dejecta of the patients were carried to be deposited in a watercloset situated close to the dairy. Sir Charles Cameron placed typhoid dejecta in an open vessel close to an open vessel containing milk, and the "cultivation" of the latter proved that it contained the typhoid bacillus. The owner of the dairy was summoned for not notifying the illness of his children and fined the very moderate sum of £1.

Diphtheria in Town and Country.

Dr. THRESH (Chelmsford) opened a discussion on Diphtheria in Town and Country. His own county, he said, offered at the present time a higher mortality from diphtheria than any other similar area in the United Kingdom. From a consideration of numerous statistics it appeared that the continuous increase is marked both in the urban and the rural districts, but was about 50 per cent. more prevalent in the towns than in the country. The curves of the disease show a fall in both urban and rural districts of Essex in July during the holiday period. Comparing the London curve it showed in the otherwise continuous curve from February to October one fall, which took place in the August holiday. These facts appeared to support Professor Smith's conclusion that school influences were not an important factor in spreading the disease. The greater prevalence in towns was readily accounted for by the crowding and the larger number of children. In conclusion he insisted that more light would probably be gained from the investigation of sporadic cases than of epidemics.

Dr. DIXEY (Oxford) illustrated his remarks by a number of tables and diagrams. He said, of the general course of diphtheria in 1895-96, that the weekly mortality, which had fallen to the normal at the end of 1894, remained much the same for the first four months of 1895. At the end of April, however, an upward tendency began, and with one interruption was maintained until the end of October. From that time the mortality steadily decreased until the beginning of May, 1896, when it was within seven of the normal. The tendency has since been in the upward direction. As regards the influence of school attendance, Mr. Shirley Murphy's contention as to the effect of the summer holidays in August and the reassembling of schools in September was well known, and also his calculations as to age incidence in July, August, and September. These results were confirmed by the curve of 1895. The drop in August, 1895, was striking, coming in the midst of a general rise. Those who denied the influence of schools in spreading the disease should explain these variations in the curve, corresponding with the chief holiday periods, and recurring year after year.

Dr. COOPER-PATTIN (Norwich) had long found that dampness and rain, especially intermittent rain, were conditions associated with the prevalence of diphtheria. On the other hand, continuous fine weather lessened those particular notifications. This sequence occurred and recurred so constantly that he thought it impossible to regard it as a mere coincidence.

Dr. ALLAN (London) thought that after a time individuals might become more or less immunised to the poison of diphtheria. That theory might explain the fact that some districts had intervals of comparative freedom from the disease. One would expect, if diphtheria were a school disease, a sharp rise at the seaside holiday resorts to balance the fall in the towns.

Dr. GROVES (Carisbrooke) believed there was some connexion between the geological formation of a country and diphtheria. He had inquired into an epidemic in his district, which was followed by an outbreak of scarlet fever having the same curve. Both outbreaks commenced in the east end of the town and followed the upper secondary formation.

Dr. TREVELYAN (Leeds) remarked that the bacteriology of diphtheria was not well understood outside the human body. It was generally believed that the bacillus diphtheriæ could live for weeks or months outside the body. The streptococcus also produces membranes like those of diphtheria.

The proceedings, which had been throughout of a most interesting nature, were brought to a close by a hearty vote of thanks to the Chairman, Sir Joseph Ewart, and the secretaries, Dr. Ross and Dr. Cooper-Pattin.

PATHOLOGY AND BACTERIOLOGY.

THURSDAY, JULY 30TH.

The Pathology of Coal-gas Poisoning.

Dr. JOHN HALDANE (Oxford) made a few remarks on this subject. Experiments, he said, were shown or described proving that although purified coal-gas contains constituents which exercise a slight toxic action apart from that of carbonic oxide, yet all the symptoms which occurred in ordinary coal-gas poisoning were due to carbonic oxide poisoning alone. A description was then given of the symptoms caused by the inhalation of carbonic oxide as observed in the laboratory and by rescuers after colliery explosions. Experiments were also shown which demonstrated that these symptoms were due solely to the diminished supply of oxygen caused by the combination of carbonic oxide with the hæmoglobin of the blood. Samples of blood from the bodies of miners killed by carbonic oxide were exhibited. Analyses of these samples showed that the blood was usually to the extent of about 80 per cent. saturated with carbonic oxide. The paper concluded with a reference to the exceedingly poisonous character of the mixture of coal-gas and water-gas now supplied for lighting purposes in many towns.

FRIDAY, JULY 31ST.

The Relations of the Morbid Conditions Dependent on (or Associated with) the Presence of Streptococci.

The discussion on this subject was introduced with a paper by Dr. G. SIMS WOODHEAD (London). The paper expressly disclaimed any other function than to introduce the matter for discussion. He drew attention to the fact that there was a great deal of doubt as to the part the streptococcus pyogenes usually played as an etiological factor. He took special notice of the work of Dr. W. Bullock as expressed in a paper contributed by him to THE LANCET, April 11th, 1896, p. 982, in which he gives a good account of the tissues and fluids of the body and the diseases in which the streptococcus has been found. Dr. Woodhead for the most part considered the streptococcus to take a secondary or adjuvant action to that of other pathogenic organisms which might be regarded as usually taking the primary or preliminary *rôle*, thus, as it were, paving or preparing the way for the subsequent action of the streptococcus. An interesting fact was that the streptococcus occurred along with other pyogenic organisms in the buccal cavity, the pharynx and œsophagus, on the surface of the skin, in the glands of the skin, in the clothing, in dust, and in every possible conceivable position to which animal secretions could gain access. It was for these reasons that the streptococcus came to be present in many diseases, chiefly as a secondary agent in all probability. He pointed out the fact of its frequent occurrence in the exudations of diphtheria in company with organisms associated with the names of Löffler, Klein, and Klebs. He drew a comparison of the different false membranes in which are found the true diphtheria bacillus, the streptococcus anginus, or a mixture of both the aforesaid organisms. He also noted the probability of the bacillus coli communis being one of the primary organisms to the action of the streptococcus.

There was a tendency to speak of or to describe morphological differences between groups of organisms with common functions and which give rise to similar products; and also, on the other hand, to ascribe different functional activities to organisms identically the same. There were six different individual pyogenic streptococci, which were divided into three groups, each with a separate name, though all were the same morphologically and as regards their mode of growth when under cultivation. In Group 1 were the streptococcus pyogenes œdematus (Fluggé) and the streptococcus septicus, both of which presented common morphological characters, and both proved fatal to mice and rabbits when injected into the veins, and in most cases when injected subcutaneously. Group 2 comprised the streptococcus erysipelatosus and streptococcus septopyæmicus, which were also identical in morphological characters and growth; they developed less readily in the tissues of the human body and were not so fatal to mice and rabbits. In Group 3 the streptococcus articulorum when injected into the veins of rabbits attacked the joints, setting up inflammation and producing usually a fatal result. To this group also probably belonged streptococcus anginus. These last were found in the exudations and secretions of measles and scarlet fever, in rheumatism, in false membranes, and in association with other organisms such as the diphtheritic bacillus and the staphylococcus albus, aureus, or cyaneus, in abscess in the skin, furuncles, and elsewhere, in inflammatory processes in the mouth and fauces, in otitis, enteritis, and peritonitis along with the bacillus coli communis, and in all superficial skin affections, especially in weakly patients. They all no doubt possessed a wide distribution and occurred in many diseases. The following points as to mode of action and life-history were worthy of note. Firstly, it must undergo great modification as regards the part it played in the production of its particular products; secondly, that it was found so often along with other organisms that its so-called products might perhaps be due to its symbiotic existence; and, thirdly, that the state of the tissues on which it acts must play a very strong part in the nature of the reactions of its products, life-history, and functional activity. It was generally known that outside the body the streptococcus might lose its virulence, and that it was only by growth in serum-bouillon, and by passing the organism through a series of rabbits from time to time, that its full powers could be maintained. It was only by using the methods of Marmorek that the discrepancies of the earlier observers as regards its virulence and propagatory power could become at once explicable. That the streptococcus lived, as it were, two separate existences, the one saprophytic or "vegetative" in nature, where, owing to the fact that the agencies inimical in character to its growth being few and of different kind, it became diverted along lines favourable to its existence. It led here, therefore, a strictly vegetative life, devoting its energies to reproduction and to resisting the action of light and similar destructive agents. On the other hand, during its other, or parasitic, life, it waged a warfare for its very existence, and as a result of this struggle produced substances paralysing to living tissue. It now lived at a higher level, so to speak, forms products which in its vegetable life it did not produce, because its existence was comparatively easy and its energies were chiefly expended on reproducing itself. After living its parasitic life the streptococcus did not grow so easily outside the body, and, besides, it was only after its toxin producing powers were lowered that it could reproduce itself at the rate it did whilst living its purely vegetative live, and *vice versâ*. The point of the secondary action of the streptococcus to that of the primary action of other organisms such as bacillus diphtheriticus, bacillus coli communis, bacillus prodigiosus, and bacillus typhosus must be taken into due consideration. He considered its action somewhat analogous to the following. The natives of India are in the habit of requiting a disagreeable neighbour by stuffing rags treated in a certain manner into the rectum of his cattle. It was suggested that the rags were treated by snake venom, which was here the active agent used to destroy the cattle. Under this supposition Hamblin carried out some experiments of a like character with snake venom, but failed to cause any lethal results; Calmette, on the other hand, found that rags treated with "abrin," an irritant, and then with snake venom were capable of causing death by snake poisoning. In this case the "abrin" was the factor which, setting up an intense inflammation, gave or afforded the opportunity for the snake venom to obtain entrance into the circulation. In a like manner do other organisms, just as "abrin," afford, by their primary action, the opportunity for the further action of the streptococcus. Dr. Woodhead concluded by raising points for discussion, chiefly as regards the life-history of the streptococcus and as regards its relation to the action of other organisms as to whether or not the streptococcus stood secondary to other organisms, or in what manner their previous action could modify its subsequent action, and the bearings that the devitalisation of tissue, such as bruises, ligatures, breaches of epithelial barriers, as abrasions and wounds, chemical irritants, exhaustion, exposure, hæmorrhage, imperfect nutrition and excretion, and conditions such as glycosuria, &c., had as a determining factor in the action of streptococci.

Dr. ROBERT MUIR (Edinburgh) said that there were differences of opinion as to the many kinds or species of streptococci which at one time or another prevailed in different diseases or in various modifications of the same disease. He was of the opinion that the work of Marmorek would tend to show that this was not the case. Also, that in the same disease at one time there was a stationary local process and at others a spreading one, as in the cases of erysipelas and pneumonia, where the disease at first flourishes and then dies down. There was a great analogy and many points of resemblance between these two diseases, and the analogy was capable of being pushed very far. There seemed in many cases to be a production of immunity with rapid recovery; in others this was not the case, the disease leading to suppuration. The streptococcus might be placed half way between the staphylococcus and the pneumococcus. He did not think much of the theory that the virulence depended on the site at which it found entrance into the body.

Dr. FORBES-ROSS (London) thought that the theosophy of the dual existence of the streptococcus, if absolutely true, was highly interesting and instructive, and should tend to explain and clear up many differences and clinical divergences of the same diseases in different individuals and in other diseases where the streptococcus was known to exist, of course taking into consideration personal peculiarities and resistance. The theory of the secondary action of streptococcus was very seductive and enticing, as it tended to clear up satisfactorily the continued presence of streptococci in various parts of the alimentary canal during health without ill effects to the individual, and that whether the bacillus coli communis was a generic name, comprising many and various organisms, or was individually descriptive of modifications of the same identical organism, the "secondary" or "adjuvant" theory seemed to throw light on those cases where streptococcus was found taking an active *rôle*, perhaps as the result of previous irritation or devitalisation by the action of other organisms in the alimentary canal, especially in children. He believed that children needed to acquire a certain amount of immunity to even the commonly regarded innocuous organisms found in the alimentary canal of adults, and existent there with no ill effects. He did not for a moment doubt but that previous wounding, bruising, or injury might be considered "primary" to the "secondary" action of streptococci and other pus-producing organisms—e.g., abscess of the lung after pneumonia, pelvic cellulitis, &c.

Fibromatosis and Tumours of the Peripheral Nerves.

Dr. ALEXIS THOMPSON (Edinburgh) read a paper on Fibromatosis and Tumours of the Peripheral Nerves, with lantern demonstration. He showed slides from Smith's cases of fibro-neuromata illustrating the coarse anatomy of the affections of the nerve trunks, and pointed out the multiple nodular lesions; also some slides illustrating cases of Recklinghausen, giving the appearance of the skin in the conditions of cutaneous multiple neuro-fibromata, and a specimen (by himself) of plexiform neuroma of the small sciatic nerve. The tumour was stated to have infiltrated the surrounding tissues, such as the fascia and the gluteal muscles. It was probably the only example of its sort yet recorded in England. He next showed some examples of elephantiasis of nervous origin, and a slide showing a very good specimen of cutaneous neuro-fibromata. He here pointed out that various forms of neuromata occur in the same person or in members of the same family, as cutaneous neuro-fibromata along with neuro-elephantiasis in the same child. Some really excellent slides were exhibited showing the minute anatomy of the lesions, one of the sciatic nerve showing the increased proliferation

in the nerve bundle of the "endoneurium," another of the lesser internal cutaneous nerve; both of these showed clearly and distinctly the overgrowth of the endoneurium, markedly displacing the nerve fibres to one side of the bundle or distributing them around the periphery of the bundle. A further most interesting and instructive series of slides showing the change in the endoneurium longitudinally, and some slides showing the ramifications of the nerve filaments in the skin, these also showing the condition of fibromatosis, were exhibited. He stated that any operative attempt at removal was usually unfavourable as regards recurrence and increased activity in the fibromatosis. This disease was usually put down, so far as was known, to congenital influences, as in the case of other forms of multiple tumour (chondromata of the skeleton, &c.), and, like them, might be inherited. A discussion of this paper, which was well received, followed.

Ascending Degeneration in Peripheral Nerves and the Resulting Changes in Nerve Cells.

Dr. R. A. FLEMING (Haddington) read an interesting and instructive paper on the results of careful experimentation on the Changes of Nerve Cells as the result of Ascending Degeneration. He showed some excellent slides of the minute anatomy of the changes, as also some framed hand sketches of the same. The paper was divided into three heads.

1. *What is ascending degeneration?*—It had been described as (1) an atrophy of nerve fibres, (2) Wallerian degeneration, (3) a combination of (1) and (2), and a condition in which there is no recognisable change at all. He had found in the central ends of sciatic nerves from rabbits after section or ligature (care being taken to prevent union of the two ends):—(*a*) An atrophy of fibres connected with multipolar cells, slowly advancing and often difficult of observation; (*b*) Wallerian degeneration of certain "sensory" fibres, probably fibres with a peripheral trophic centre; (*c*) marked changes in the minute fibres; and (*d*) increase of connective tissue in certain parts of the nerve. He referred specially to the minute fibres (*c*) and the connective tissue changes (*d*). These minuter fibres ran in little groups, were all (in a rabbit's sciatic) medullated, and underwent the following change. Those fibres which had been divided—that is, which had lost their function—rapidly atrophied, and their place was taken by hypertrophy of connective tissue, large numbers of enlarged proliferating connective tissue nuclei developed and, by pressure, hastened the process. These fine fibres were probably vasomotor in function, and were supported by well-marked connective tissue trabeculæ. In the central end of the ulnar nerve of a patient aged twenty-seven years, whose arm had been amputated ten years before death, the following change was noted in the funiculi about two inches above the terminal neuroma. In one funiculus there were few minute fibres present. These were surrounded and replaced by connective tissue, the nuclei of which were extremely obvious. At a higher level in the same funiculus more and more minute fibres were observed. In another funiculus in close proximity many more groups of minute fibres were seen close to the neuroma replaced by fibrous tissue; at a higher level many more minute fibres were visible in these groups. Here, too, as in the rabbit, there were few, if any, non-medullated fibres. The minute fibres were medullated, and were probably mostly vasomotor in function. There was little or no connective tissue increase around individual nerve fibres in either specimen. The ulnar nerve from the stump differed from the rabbit's sciatics, inasmuch as the vessels showed marked changes—enlargement and proliferation of nuclei of intima, to a less extent of the media, and still less of the adventitia. The vessels so affected were arterioles and capillaries, most marked in endoneurium, less marked in perineurium, and least in epineurium. He suggested that this change was due to the connective tissue replacing minute fibres (vasomotor) which had lost their function, contracting and causing pressure on fibres belonging to vessels in the lower end of the stump. This change was seen in the vessels of nerves perhaps most markedly but it was also present in muscles &c. and decreased as the stump was examined higher up. In rabbits up to 100 days after section or ligature this vascular change in the central end of the sciatic was only commencing and was quite absent in specimens examined three weeks after section or ligature. The change in the minute fibres of the central ends of rabbits' sciatics appeared as early as the fourth day after section or ligature. He suggested that the great difference of opinion as regards the phenomena of ascending degeneration in nerves might be due to (1) wounds becoming septic in dogs, cats, &c., and (2) defective methods of fixing and hardening.

2. *Changes in the nerve cells.*—Changes are first marked in the cells of the ganglia on the posterior nerve roots after section or ligature of the sciatic. There were observed in over forty experiments on rabbits (*a*) diminution in the size of the cell and great proportionate diminution in the size of the nucleus; (*b*) frequent eccentric position of the nucleus; (*c*) grouping of chromatic granules round the nucleus often in little masses; and (*d*) as a late stage disintegration of cell protoplasm. In the multipolar cells of the "sciatic" region of the cord on the affected side the same changes—only much less rapid disintegration of protoplasm, however—occurred earlier than in ganglia. Changes in ganglia were noted as early as from the fourth to the seventh day, and were well seen in sketches of sections from ganglia fourteen, twenty-three, and 140 days after ligature of the sciatic nerve. A few abnormal cells were often noted in healthy ganglia, especially grouping of chromatic granules round the nucleus, and a few normal cells sometimes occurred in affected ganglia, but both these exceptions to the general rule were rare. He stated that obviously no trophic cell could have a process injured without suffering in some way, and that probably if the process injured conducted impulses normally *towards* the cell, the cell would suffer sooner than if the process injured normally conducted impulses *away from* the cell. He was at present making observations on the cells connected with the minute fibres already referred to, and though his experiments were not completed he believed that the changes in the sympathetic ganglia cells would agree closely, in some respects at least, with the changes found in the ganglia in the posterior nerve roots.

3. *The practical bearing of ascending degeneration to the physician and surgeon.*—This was important because it suggested that the cell might in not a few conditions be made the subject of treatment and not the process belonging to it. Would it not be possible in peripheral neuritis for the action of the toxin on the vasomotor cells, demonstrated by the arteriolar and capillary changes so often observed in this disease, to be neutralised or antagonised by some therapeutic agent? In conclusion he tendered his thanks to Sir Thomas Grainger Stewart, the Royal College of Physicians of Edinburgh, and Professor Münk (Berlin), in whose laboratories the experiments referred to above had been conducted.

Hypertrophic Pulmonary Osteo-arthropathy.

Mr. F. H. WESTMACOTT (Cheadle) read a paper on a case of Hypertrophic Pulmonary Osteo-arthropathy. He gave an interesting account of the arthritic appearances clinically, and mentioned the occurrence of digital irritation and hypertrophy of a chronic nature. He showed several slides giving the appearance of the naked-eye changes in the joints, especially the insular, sharply defined patches of erosion of the cartilage of the articular ends of the long bones, especially in the shoulder-joint.

Dr. F. W. EURICH (Preston) read an interesting paper on the Recent Advances in Knowledge of the Neuroglia, Normal and Pathological, and gave a descriptive lantern exhibition.

THE ANNUAL MUSEUM.

(*Continued from p. 356.*)

II.—MEDICAL AND SURGICAL APPLIANCES.

The exhibits coming properly under this heading were decidedly a feature of the Museum this year, and in addition to a goodly display of the usual stamp of surgical instruments there was also a very fair representation of hospital appliances. In this connexion may be mentioned the aseptic hospital furniture shown by Messrs. Down Bros. (21, St. Thomas's-street, S.E.) in a room adjoining the main building. This exhibit consisted of a bottle-stand for antiseptic solutions, cabinets for instruments, glass tables, glass instrument trough, operation table of improved Stockholm pattern, adjustable operation stool, portable operation table, trolley and stretcher for wheeling patients from ward to operation theatre, and a wound irrigator with adapting attachments. In another place the same firm presented an excellent assortment and display of aseptic surgical instruments, anastomosis buttons, anæsthetic apparatus, syringes, sterilisers, craniectomy, dermatological, aural, and hysterectomy instruments, new forms of curettes, and other various apparatus designed in accordance with

recent developments. A very interesting exhibit was that of Messrs. Billington Brothers of Liverpool, which consisted in the main of bedsteads, spring mattresses, and other articles of invalids' furniture provided with the now well-known sanitary flexible woven wire fabric. The exhibit included models of various beds adapted for use in asylums, an extra low epileptic bed, a hospital bed, a folding sanitary berth for steamers, sanitary steerage berths, and a sanitary railway carriage seat based on the same woven wire material. Arborine mattress pads call also for mention in this exhibit as they would appear to offer very distinct advantages. The material is a specially prepared wood shaving, much cheaper than hair, for which it is an excellent substitute in infectious cases, since, while it is comfortable, it can be destroyed when necessary and renewed at a small cost.

Amongst the appliances specially worthy of mention in Messrs. Burroughs, Wellcome, and Co.'s imposing and artistic exhibit were the following:—1. Stay-bar "Tabloid" Medicine Case. This light and compact chest has been specially designed to enable physicians to carry with them a complete medical equipment when paying long country visits or when called upon in emergencies. Every effort has been made to reduce the weight to the smallest quantity and to make the contents as representative and useful as possible. 2. The Handle-bar "Tabloid" Medicine Case. This is a smaller medicine case than the above and has been prepared to answer similar requirements. It should prove of great value to the increasing number of country practitioners who use the bicycle when paying a round of calls over an extended area of country. 3. Yacht's "Tabloid" Medicine Chest. This is a useful little medicine chest made to fix on to the side of a yacht's cabin and is intended to be fitted out with those "tabloids" of compressed drugs selected by the physician as suitable for short or extended voyages and adapted to the special needs of the party on board. 4. Aluminium Congo "Tabloid" Medicine Chest. This medicine chest is made of aluminium and fitted with ebonite bottles, thus reducing the weight by 20 lb. and preserving the "tabloids" in unbreakable containers. These chests have been used in the equipment of the Nansen and Jackson-Harmsworth Polar Expeditions and should prove of great value on account of their extreme lightness. 5. In order to show the extreme compactness of the "tabloid" system of compressing drugs a small silver case was shown in the form of a watch-charm containing 500 doses of a valuable medicine. 6. An improvement has been made in connexion with the B. W. and Co. powder insufflator. By means of a little rubber ring the cylinder is held much more securely in its place. A new laryngeal tube is made to fit on to these instruments. 7. A new syringe for use in injecting serums. It is much smaller than the ordinary bulky syringes used for this purpose, and is so made that it can be instantly taken to pieces for the purpose of undergoing sterilisation before or after injection. The stall of Messrs. John Weiss and Son of 287, Oxford-street, W., was replete with apparatus designed for the treatment of deformity and requisites for invalids and nurses. The surgical instruments included improved forms of lithotrites, eye instruments, thermo-cauteries, and sets of aseptic apparatus. The exhibit of Messrs. Allen and Hanbury included some very important novelties in surgical appliances in addition to an admirable display of ordinary instruments with which the name of this firm has for long been satisfactorily associated. We should in particular mention the new universal adjustable splint, which is so designed that it can be placed at any part of the circumference of a limb and at any angle and then locked in whatever position it is advantageous to secure. It is constructed also of aluminium, so that the limb may be photographed by means of the "x" rays without the necessity of removing the splint. We hope in a future issue to describe this ingenious and useful appliance at the greater length which its importance demands. In the same exhibit was shown the "Davidson" double optometer for the easy testing of sight. This apparatus, on account of its great simplicity and accuracy, has largely come to be employed by practitioners, affording them a ready means of ascertaining the defects of vision. In the great assortment of apparatus shown by Messrs. Brady and Martin of Newcastle-on-Tyne the cheapness of sets for taking "x" ray photographs and the work done with them were really surprising. With the set also is supplied an arrangement for keeping the hand or arm in steady position over the plate. The exhibit also included some surgical instruments, aseptic appliances, and apparatus connected with bacteriological work. Hartmann's hygienic wood-wool (the Sanitary Wood-Wool Company, 26, Thavies-inn, Holborn-circus, E.C.) is now well known and its value in antiseptic and aseptic surgery established. In regard to sterilised dressings, it should be added that by a patent process this firm prepare a cheap and reliable aseptic dressing, packed in thick parchment tubes, sterile cotton-wool being inserted in each end after sterilisation of the tube has been completely effected by a current of steam at 100° C. The exhibit also included sanitary wood-wool sheets for accouchement, &c., and sanitary towelettes, composed chiefly of pure pine, which is antiseptic as well as soft. Another very useful appliance exhibited in the same stall was a wound protector constructed of adhesive tissue provided with a hollow celluloid shield. Messrs. Christy and Co. of 25, Lime-street, in addition to showing a series of fine pharmacopœal products, also submitted some interesting appliances for inspection. Foremost amongst them were the "antrophors" or flexible steel springs for the treatment of diseases of the urethra and prostate. They are first coated with an insoluble rubber coating to avoid any irritation of the mucous membrane, the outer coating being soluble and containing the medicament. The "Morstadt cachets" in various colours added to the artistic side of the exhibit, while an excellent substitute for oiled silk, known as "Christia," which does not become sticky when heated, and "Christia" lint made with impermeable backing, and not affected by hot or cold water or grease or oil, should not be omitted from the list of useful appliances of this enterprising firm. We have already described the litmus pencil, also brought out by Messrs. Christy, which is constructed of chemically pure blue (at one end) and red litmus (at the other end), affording a ready and very delicate means of testing the reaction of fluids. The "Arema" vaporiser, designed for the treatment of the local conditions in phthisis and other diseases of the lungs, was exhibited by the "Arema" Manufacturing Company of 20, Victoria-chambers, 55 and 56, Chancery-lane, W.C. The apparatus is simple enough in construction. It consists of a specially made night-light as a source of definite heat, over which is placed a metal bath containing water, and in this bath a tray containing the fluid to be vaporised. The inhalant may be eucalyptus, creosote, or a mixture of oils, according to the nature of the case. The method of inhalation is described by Dr. Spencer in a small book published by the Scientific Press, Limited, 428, Strand. Messrs. Mayer and Meltzer of 71, Great Portland-street, had an excellent assortment of instruments adapted for use in every branch of surgery. Amongst these we remarked a syringe for hypodermic injection constructed entirely of glass with the exception, of course, of the needle. The piston fitted the barrel so perfectly as to be quite tight. The advantage of this departure in construction is obvious, for it admits of being easily rendered aseptic, and any objectionable matters in the syringe would readily be detected. In the same exhibit was Carwardine's saccharometer for the rapid yet accurate determination of the sugar in urine. We have already noticed this useful apparatus favourably, as well as also a similarly simple apparatus for the determination of urea. Messrs. Philip Harris and Co. of 144 and 146, Edmund-street, Birmingham, also exhibited a series of surgical instruments and appliances, amongst which are specially worthy of notice Mr. Lawson Tait's new electric hæmostat, Mr. Christopher Martin's trocar and dilator combined for use in pelvic operations, a milk steriliser, a chloroform dropping bottle, and complete sets for taking "x" ray photographs. Visitors had the opportunity of having the A.B.C. system of medical bookkeeping explained, which, however, is so simple as hardly to require explanation. We learn that the system has steadily grown in favour with the profession since we had occasion to comment upon it. The Medico-Clerical Cycle Agency of Coventry and of 86, Newhall-street, Birmingham, exhibited a novelty in the shape of a bicycle fitted with a bag carrying a set of midwifery apparatus, comprising a Barnes's long midwifery forceps, pocket surgical dressing case, bandages, tourniquet, catheters, and six small bottles for opium, ergot, ether, chloroform, &c. The outfit can, of course, be modified to suit individual requirements. Lastly, Messrs. Geo. Gale and Sons of Dominion Works, Birmingham, had on view an interesting selection of beds and furniture for hospital and invalid use. These included beds for epileptics, beds for use in case of fracture, beds for the insane, and various surgical beds designed by Mr. Lawson Tait.

III.—SPECIAL FOODS.

It is gratifying to note the great advances that have been made during recent years in the preparation of invalid foods, and these advances have extended, not only to meat preparations, but also to farinaceous foods, while the composition of foods especially adapted to individual cases have been carefully studied. As an example of the latter we may quote the really palatable and useful series of foods now prepared for the diabetic and the various preparations of cow's milk presenting an analogous composition to human milk. The Aylesbury Dairy Company perhaps take the lead in this direction with their excellent preparations of humanised milk. These are perfectly sterilised, and No. 1, being prepared with a minimum percentage of curd, is admirably adapted for the feeding of infants with easily disturbed digestive functions; while No. 2, containing the full percentage of albuminoids, presents the composition of a natural and complete food adjusted exactly to supply all the factors in early nutrition. The same firm exhibited various specimens of Koumiss, which has recently been extolled as of value in the earlier stages of wasting disease. Diabetic Koumiss, with or without glycerine, is also prepared. Worthy of mention too, is Muller's sterilised food for infants, which is prepared from pure milk, wheat flour, and eggs. Diabetic foods were well represented on the stall of Messrs. G. Van Abbott and Sons of 6, Duke-street Mansions, Grosvenor-square, W. These included diabetic bread, biscuits, almond cakes, soya bread and flour, and, in fact, every form of diabetic food that could be well devised which is palatable and at the same time adapted for the special requirements of the case. In addition we noticed hypophosphite of lime biscuits, presenting food factors calculated to repair a deficiency in those suffering from rickets, &c., and digestive biscuits, which are not only nutritious, but mildly laxative. The perfected Wyeth Meat Juice has received critical attention in THE LANCET Laboratory, and the results obtained on analysis gave indisputable evidence of the excellence of this preparation, containing, as it does, not only the albuminous principles of beef in an active and soluble form, but in the condition in which they occur in the freshly expressed juice of beef itself. The preparation (Burroughs, Wellcome, and Co.) has recently been improved in regard to concentration, a step which entitles it to rank as one of the most powerful stimulating foods of this type which are available. Diastased farina (E. Beanes and Co., Hackney Wick, N.E.) is a new introduction that claims attention. It is essentially a farinaceous food containing the active enzyme of malt, with the result that on mixing it with water and raising it gradually up to boiling point the diastase effects the digestion of the starchy matters into dextrin and maltose. On no account should this food be prepared with boiling water, since the activity of diastase is destroyed at that temperature. The food should prove of peculiar nutritive value when prepared in the manner just indicated, not only because of the digestive action of the diastase, but because also of the enhanced proportion of valuable mineral constituents which the addition of diastase introduces.

The Liquor Carnis exhibit (London, E.C., and Aston Clinton) afforded an important and valuable contribution to the food section of the Museum. The list included the well-known preparation "virol," a bone-marrow food consisting of the red and yellow bone marrow held, so to speak, in solution by active extract of malt, besides the salts of beef and egg, all in the proportion of a complete food; "marrol," a similar preparation, but less sweet, and admirably adapted for the administration of fat containing the important organic constituents of marrow that are rich in phosphorus and iron; L.C.C. meat-juice, a natural muscle juice expressed in the cold, and containing the vital constituents of prime beef unchanged; and, lastly, "virol sans sucre," a preparation embodying all the nutritive and tonic properties of red and yellow bone marrow, rich in the organic compounds of phosphorus and iron.

An effective exhibition was that of the Liebig's Extract of Meat Company (9, Fenchurch-avenue, E.C.), who made a special feature of their comparatively new and excellent preparation, "beef peptone," almost one half of which, as we have shown, consists of true albumoses and peptones, while the albumin amounts to nearly 2 per cent. It furnishes a highly nutritive broth, which is of agreeable beefy flavour, and is extremely convenient for the preparation of a reliable nutrient for invalids. Glendenning's beef and malt wine (W. Glendenning and Sons, 9, Grainger-street, Newcastle-on-Tyne) is described as a scientific combination of three valuable nutrients—viz., Kepler malt extract, Mosquera beef jelly, and a good wine imported from Oporto. The taste certainly gives a confirmatory impression of the presence of these constituents, but we propose shortly to submit the preparation to analysis in THE LANCET Laboratory with the view of ascertaining its real merits as a nutrient and stimulant. Nutrea food (54, Chiswell-street, E.C.) has already been submitted to analysis and reported on in our columns. It is a malted food, containing an unusually high proportion of nitrogenous constituents, while the carbohydrates are for the most part in a soluble and easily assimilable form. The Maltine Company (24 and 25, Hart-street, Bloomsbury) exhibited a great variety of foods, which included also the highly nutritive preparations of Carnrick and Co., prominently amongst which were beef peptonoids composed of concentrated beef, milk, and gluten in powdered form, liquid peptonoids (digested) with or without coca and cod-liver oil milk. Maltine blends admirably with coca wine, the compound presenting a restorative and nutritive tonic in pleasant form. The special food preparations of Messrs. Brand and Co. (11, Little Stanhope-street, Mayfair, W.) contributed an attractive exhibit. Of special excellence are the preparations of beef, mutton, veal, and chicken peptone, while to these should be added concentrated beef-tea and essences of various meats, and meat juice expressed in the cold, and containing a high proportion of unaltered albumin in addition to the meat extractives of restorative value. The "Milkmaid" brand of condensed milk (Anglo-Swiss Condensed Milk Company, 10, Mark-lane) is one deserving highest praise, since it contains all the cream of the original milk, while, in addition, the same company prepares also "ideal milk," not inaptly named from the fact that it consists of milk concentrated by heat and subsequently enriched 20 per cent. by the addition of cream. Hoff's malt extract may be termed the pioneer malt extract, as we believe it was the original malt extract made, containing the nutritive elements of malt in addition to active diastase. It is prepared by M. Hoff of Hamburg, the London agency being at 29, New Bridge-street, E.C. To the taste it resembles stout, but of fuller body and possessing a ripe malty flavour. It has been used with benefit in certain types of malnutrition. An analysis and report of "Excel" sterilised milk, which contributed an imposing exhibit, appeared in THE LANCET of May 16th, 1896. The milk is perfectly sweet and sound and sterilised upon scientific lines. It presents, further, the composition of milk of good quality. In addition to an excellent series of digestive preparations noticed in THE LANCET of Aug. 1st Messrs. Armour and Co (Chicago and London) showed a selection of powerful beef foods, including extract of beef, and "vigoral," a combination of extract of beef with powdered beef fibre. The latter is a specially commendable preparation, since obviously it must possess not only stimulating but sustaining properties also. An important series of special preparations for infant feeding was one of the features of Messrs. Allen and Hanbury's exhibit (Plough-court, E.C.). The "first food," intended as a substitute for mother's milk and given for the first three months, is in the form of dry powder, and is made from cow's milk from which the excess of casein has been removed and the deficiency in fat, soluble albumin, and sugar restored. The "second food" is the same, but with the addition of maltose, phosphates (soluble), and albuminoids, and is intended to follow the employment of No. 1 after the first three months. No. 3 is a malted food, the exhibition of which should follow the use of the former. It presents an admirable composition from the point of view of an infant dietary. "Cream of Malt" was the only, but very worthy, representative of the special food section shown on Messrs. Oppenheimer's (14, Worship-street, E.C.) stall. It is prepared from finest selected Scotch winter barley, and affords an excellent vehicle for the administration of cod-liver oil, to which may be advantageously added the hypophosphites of lime, soda, and potash. The Bovril Co. (30, Farringdon-street, E.C.) had an excellent display of their several admirable preparations. We recently had occasion to publish[1] an analysis of one excellent preparation in particular—namely, "Invalid Bovril," which contains, as was then shown, the entire nutritive and invigorating constituents of ox-beef. It is, further, free from objectionable seasoning and affords a valuable resource in the invalid's dietary. The exhibit included also specimens of special emergency foods such as were supplied to the Nansen, Jackson-Harmsworth, and Wellman Arctic Expeditions.

[1] THE LANCET, May 16th, 1896.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the examinations for medical and surgical degrees in the Easter term, 1896, the following were successful in the subjects indicated:—

FIRST EXAMINATION.

Part I. Chemistry and Physics.—Adam, Trinity; Andrews, St. John's; Aveling, Christ's; L. E. H. R. Barker, Gonville and Caius; Beck, Clare Hall; Beckett, H. Selwyn; Bowdler, Sidney-Sussex; A. S. Bradley, Gonville and Caius; H. S. D. Browne, Trinity; Bryan, King's; Bulstrode, Trinity; Burrows, Emmanuel; B. A. Candler, Corpus Christi; Carver, King's; J. G. Castellain, Trinity; M. A. Colyer, Catharine; Courtauld, Trinity; Davies-Colley, Trinity; Deeping, Trinity; Emmerson, Gonville and Caius; Etherington-Smith, Trinity; B. A. Eve, Emmanuel; H. R. Fisher, Emmanuel; W. H. Fisher, Emmanuel; Franklin, King's; Gayner, King's; Greene, Corpus Christi; Hardwich, Trinity; Henderson, Gonville and Caius; Hodder, King's; Hodgkin, King's; H. D. Hoffman, Trinity; Hopper, Gonville and Caius; Jeudwine, H. Selwyn; J. H. Kellgren, Trinity; Kelsey, Pembroke; Kitchin, Downing; Lambert, St. John's; Leathart, Clare Hall; Le Lacheur, Trinity; Lloyd-Jones, St. John's; Mart, St. John's; H. W. Masterman, Christ's; Mott, Trinity; Murray, St. John's; C. M. Murray, Pembroke; Nedwill, Trinity; Norton, Trinity; Parez, Emmanuel; Parker, Pembroke; Payne, Peterhouse; J. S. Pearson, Trinity; A. R. Phelps, Trinity; B. A. Rashleigh, Trinity; Rischbieth, Trinity; Rix, Trinity; Rob, St. John's; Roper, Gonville and Caius; St. Clair-Smith, Trinity Hall; W. T. Scott, Clare; Skrimshire, Jesus; Slack, Pembroke; Spicer, Trinity; Statham, Christ's; Stocker, Trinity; Wacher, St. John's; Wales, Downing; G. A. Weir, Trinity; Wharton, St. John's; H. S. Wild, Jesus; H. M. Wilson, Trinity Hall; Wilson, H. Selwyn; F. E. Wood, Downing; and Worthington, Gonville and Caius.

Part II. Elementary Biology.—Adam, Trinity; Attlee, Emmanuel; Andrews, St. John's; Aveling, Christ's; L. E. H. R. Barker, Gonville and Caius; Beck, Clare; Bowdler, Sidney-Sussex; Bradbury, Clare; A. S. Bradley, Gonville and Caius; H. C. Brown, Emmanuel; Bulstrode, Trinity; Butler, Emmanuel; Candler, B.A., Corpus Christi; Carver, King's; A. J. Clarke, Emmanuel; Cotes-Preedy, Emmanuel; Dilly, St. John's; Davies-Colley, Trinity; Deeping, Trinity; R. S. Drew, Pembroke; Dudley, H. Selwyn; Eve, B.A., Emmanuel; H. R. Fisher, Emmanuel; W. S. Fox, Trinity; Franklin, King's; Gayner, King's; Hailstone, H. Selwyn; Hardie, Queen's; Harke, Pembroke; A. W. Harvey, St. John's; Heap, Sidney-Sussex; J. P. Hedley, King's; Hodder, King's; Hodgkin, King's; Holroyde, Trinity; A. C. Hudson, Trinity; A. C. Ingram, St. John's; Jeudwine, H. Selwyn; Kempthorne, St. John's; Kitchin, Downing; Lambert, St. John's; Leathart, Clare; W. E. Lee, Trinity; Le Lacheur, Trinity; Lloyd-Jones, St. John's; Lucas, Clare; Mart, St. John's; Muil, Gonville and Caius; C. M. Murray, Pembroke; Naish, B.A., Emmanuel; Norton, Trinity; Nothwanger, St. John's; Parker, Pembroke; J. S. Pearson, Trinity; Phillips, Catharine; Phillpotts, Christ's; Rashleigh, B.A., Trinity; Rischbieth, Trinity; Rix, Trinity; Rob, St. John's; Robins, Christ's; Roper, Gonville and Caius; St. Clair-Smith, Trinity Hall; Sapwell, B.A., Corpus Christi; W. T. Scott, Clare; Simey, B.A., King's; Slade, Clare; Smedley, Pembroke; Spicer, Trinity; Stockwell, King's; Taylor, non-coll.; E. W. Thornton, Trinity; Tijou, Gonville and Caius; Watson, Gonville and Caius; Wakefield, Trinity; G. A. Weir, Trinity; Whale, Jesus; Wharton, St. John's; Wilson, H. Selwyn; F. E. Wood, Downing; J. R. L. Woods, H. Selwyn; Worthington, Gonville and Caius; and Wylie, Pembroke.

SECOND EXAMINATION.

Part I. Pharmaceutical Chemistry.—Y. Babcock, B.A., Catharine; Bate, King's; Bates, M.A., Queen's; Bentley, Emmanuel; Bolland, Emmanuel; Carroll, Trinity; Cave-Moyles, Gonville and Caius; Claxton, King's; Coare, King's; J. G. Cooper, Trinity; Crompton, Gonville and Caius; G. Dixon, B.A., Trinity; Dore, B.A., St. John's; Dunlop, Sidney-Sussex; Eastwood, St. John's; Febrsen, Gonville and Caius; Gabb, Downing; Glynn, B.A., Clare; Gordon-Smith, Trinity; Graham-Smith, Pembroke; Heffer, Sidney-Sussex; Knight, Emmanuel; McDonnell, St. John's; N. Maclaren, Trinity; H. N. Matthews, St. John's; J. C. Matthews, St. John's; Mayor, St. John's; C. H. Miller, Trinity; J. C. Newman, Trinity; Newton, Pembroke; Richmond, B.A., Clare Hall; Roberts, B.A., St. John's; Sanders, Christ's; Sanger, St. John's; Schreiner, Downing; Sedgwick, Sidney-Sussex; Shipman, Trinity; Spearman, Gonville and Caius; Stiff, Gonville and Caius; R. J. D. Taylor, Gonville and Caius; W. D. Ward, St. John's; H. H. Weir, Trinity; Wilkinson, St. John's; Wilkinson, B.A., Pembroke; A. G. Wilson, Gonville and Caius; Winton, B.A., Clare Hall; and Worthington, Trinity.

Part II. Human Anatomy and Physiology.—Abercrombie, B.A., Gonville and Caius; Ainsworth, B.A., Pembroke; Brailey, Queen's; Browse, B.A., Clare Hall; Bull, B.A., Gonville and Caius; Cowie, M.A., St. John's; De Havilland, M.A., Peterhouse; Dodson, B.A., Downing; Fraser, B.A., Gonville and Caius; Fry, M.A., Pembroke; Fryer, Christ's; Gaitskell, B.A., Clare Hall; Garrood, B.A., St. John's; Gostling, Gonville and Caius; Harthan, Jesus; Heard, B.A., Downing; Inchley, B.A., St. John's; Levick, B.A., Jesus; A. E. Martin, Downing; Orme, Gonville and Caius; P. A. Ross, non-coll.; Skrimshire, St. John's; Sutcliffe, B.A., Emmanuel; Symes-Thompson, B.A., Christ's; E. Talbot, B.A., Trinity; E. C. Taylor, St. John's; Thorp, B.A., Emmanuel; Twentyman, B.A., Christ's; Upward, B.A., Christ's, Vaughan Pryce, B.A., St. John's; Ware, B.A., Pembroke; and R. J. Willson, B.A., Emmanuel.

THIRD EXAMINATION.

Part I.—Baird, B.A., Gonville and Caius; Barraclough, B.A., Christ's; A. P. Beddard, B.A., Trinity; W. L. Brown, B.A., St. John's; Bumsted, B.A., St. John's; Butler, B.A., St. John's; W. B. Dove, B.A., Christ's; Duckworth, M.A., Jesus; J. N. Gardiner, B.A., Trinity Hall; Haslam, B.A., Gonville and Caius; W. B. Heywood, B.A., Emmanuel; Houseman, B.A., Clare; Hughes, B.A., Gonville and Caius; G. H. Hunt, B.A., Clare; G. C. Jackson, B.A., St. John's; Jerrard, B.A., Gonville and Caius; Langdon, B.A., Gonville and Caius; C. F. Lillie, B.A., St. John's; G. M. MacDonald, B.A., Christ's; Macnamara, B.A., Peterhouse; J. M. Martin, B.A., Peterhouse; F. A. Mills, B.A., Clare; Molesworth, B.A., Gonville and Caius; P. L. Moore, B.A., St. John's; Muriel, B.A., Downing; F. H. Pearce, B.A., Trinity; A. S. J. Pearce, M.A., Trinity; Petyt, M.A., Christ's; Shoyer, B.A., Trinity Hall; Townsend, B.A., Clare; Twigg, B.A., Christ's; Tyrrell, B.A., Clare; Wakefield, M.A., Trinity; F. F. Ward, B.A., H. Selwyn; Watson, B.A., Peterhouse; O. K. Williamson, M.A., Trinity; Williamson, B.A., St. John's; H. W. P. Young, B.A., Gonville and Caius.

Part II.—E. M. Barker, B.A., Emmanuel; Blatchford, B.A., Sidney-Sussex; Fletcher, B.A., Gonville and Caius; W. L. Garner, B.A., Emmanuel; Guinness, B.A., Gonville and Caius; Haward, B.A., Sidney-Sussex; Holmes, B.A., St. John's; Hunter, B.A., Downing; F. A. S. Hutchinson, B.A., Trinity; Lance, B.A., King's; Lowe, B.A., Jesus; G. M. MacDonald, B.A., Christ's; McCarthy, Gonville and Caius; Manby, B.A., Christ's; E. J. Maxwell, B.A., Corpus Christi; H. J. May, B.A., Gonville and Caius; Moritz, B.A., Gonville and Caius; Muir, B.A., King's; Nix, B.A., Pembroke; Parker, B.A., Gonville and Caius; A. V. Peatling, B.A., Magdalene; A. G. Penny, M.A., Peterhouse; A. S. Robinson, B.A., Emmanuel; A. Rotherham, B.A., Trinity; Seccombe, M.A., St. John's; Selby, B.A., Downing; W. M. Sing, B.A., Christ's; Stabb, Downing; K. S. Storrs, Emmanuel; Sturrock, B.A., Gonville and Caius; Thornely, B.A., Clare; H. F. Tod, B.A., Trinity; Tyson, B.A., Gonville and Caius; Verdon, M.A., Jesus; A. B. Ward, B.A., H. Selwyn; Webb, B.A., Clare; Wedd, B.A., Downing; and Woodhouse, B.A., King's.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations, and having conformed to the by-laws and regulations, have been admitted Members of the College:—

Addenbrooke, Bertram, L.R.C.P. Lond., Mason College, Queen's and General Hospital, Birmingham.
Alexander, Alfred, L.R.C.P. Lond., Guy's Hospital.
Alston, John Averell, L.R.C.P. Lond., University College Hospital.
Anderson, Charles Thompson, L.R.C.P. Lond., Guy's Hospital.
Anderson, William James, L.R.C.P. Lond., Cambridge University and St. George's Hospital.
Andrew, Phillip Oswald, L.R.C.P. Lond., Durham University, St. Bartholomew's Hospital, and Otago University, New Zealand.
Armson, Charles James, L.R.C.P. Lond., Middlesex Hospital.
Armstrong, Harry Frederick William, L.R.C.P. Lond., St. George's Hospital.
Ashton, George, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Atkinson, Charles Mason, L.R.C.P. Lond., University College Hospital.
Baldwin, Francis John Augustus, L.R.C.P. Lond., London Hospital.
Barker, Percy Duckworth, L.R.C.P. Lond., University College Hospital.
Barron, Willie Netterville, L.R.C.P. Lond., St. Bartholomew's Hospital.
Bennett, William Bouse, L.R.C.P. Lond., University College and Royal Infirmary, Liverpool.
Bokenham, Thomas Brandon, L.R.C.P. Lond., St. Bartholomew's Hospital.
Bolton, Charles, L.R.C.P. Lond., University College Hospital.
Brash, John Bardsley, L.R.C.P. Lond., University College, London, Mason College, Queen's and General Hospitals, Birmingham.
Breuer, Adam August, L.R.C.P. Lond., Freiburg, Marburg, and Munich Universities.
Brigstocke, Percy Ward, L.R.C.P. Lond., St. Bartholomew's Hospital.
Brown, Robert Tilbury, L.R.C.P. Lond., Guy's Hospital.
Bruce, Herbert Alexander, L.R.C.P. Lond., University of Toronto and University College Hospital.
Bucknall, Thomas Rupert Hampden, L.R.C.P. Lond., University College Hospital.
Burgess, Arthur Henry, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Burton, Charles George, L.R.C.P. Lond., Guy's Hospital.
Compton, Thomas, L.R.C.P. Lond., St. Bartholomew's Hospital.
Cooper, William Herbert, L.R.C.P. Lond., University College and Royal Infirmary, Bristol, and Westminster Hospital.
Crabtree, Angelo Matteo, L.R.C.P. Lond., St. Bartholomew's Hospital.
Craven, Walter, L.R.C.P. Lond., St. Mary's Hospital.
Cryer, Joseph, L.R.C.P. Lond., University College, Liverpool; Owens College, Royal Infirmary and Royal Southern Hospital, Manchester.
Davey, Arthur Tonkin, L.R.C.P. Lond., Middlesex Hospital.
Day, James John, L.R.C.P. Lond., Middlesex Hospital.
Dempster, William Thomas, L.R.C.P. Lond., King's College Hospital.
Dernier, William Thomas, L.R.C.P. Lond., University of New Zealand.
Dredge, James Allen, L.R.C.P. Lond., St. Bartholomew's Hospital.
Elwin, George Richard, L.R.C.P. Lond., St. Mary's Hospital.
Fagge, Charles Herbert, L.R.C.P. Lond., Guy's Hospital.
Farnfield, William Walter, L.R.C.P. Lond., Guy's Hospital.
Frederick, Edward Gurdon, L.R.C.P. Lond., King's College Hospital.
Fry, Percy Victor, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds.
Gibson, William Robert, L.R.C.P. Lond., St. Bartholomew's Hospital.
Goard, Thomas Arthur, L.R.C.P. Lond., Charing-cross Hospital.
Going, Robert Marshall, L.R.C.P. Lond., Trinity College and Dublin University and London Hospital.

Goring, Charles Buckman, L.R.C.P. Lond., University College, London.
Great Rex, James Burnell, L.R.C.P. Lond., St. Bartholomew's Hospital.
Greene, Arnold James, L.R.C.P. Lond., Mason College, Queen's and General Hospitals, Birmingham, and Guy's Hospital.
Greenwood, Frank Redmayne, L.R.C.P. Lond., Mason College, Queen's and General Hospitals, Birmingham.
Grosvenor, Randolph Lea, L.R.C.P. Lond., Cambridge University and St. Mary's Hospital.
Gunther, Hermann Arthur, L.R.C.P. Lond., University College Hospital.
Hardwick, Harold George Cook, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Haslam, Henry Cobden, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Hatherley, Sidney Oldall, L.R.C.P. Lond., Firth College and Royal Infirmary, Sheffield.
Hewetson, John Thomas, L.R.C.P. Lond., Edinburgh University.
Higginson, Charles Gaskell, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Holmes, Bernard Willoughby, L.R.C.P. Lond., St. Bartholomew's Hospital.
Hood, Thomas, L.R.C.P. Lond., St. Bartholomew's Hospital.
Hopkinson, Emilius, L.R.C.P. Lond., Oxford University and St. Thomas's Hospital.
Howell, Alfred, L.R.C.P. Lond., St. Mary's Hospital.
Huggins, Sydney Penrose, L.R.C.P. Lond., St. Bartholomew's Hospital.
Jackson, Herbert William, L.R.C.P. Lond., University College Hospital.
Jefferson, Christopher Julius, L.R.C.P. Lond., Durham University and St. George's Hospital.
John, Thomas, L.R.C.P. Lond., Guy's Hospital.
Jones, Arthur Bassett, L.R.C.P. Lond., University College Hospital.
Jones, John Howard, L.R.C.P. Lond., Middlesex Hospital.
Jones, Thomas, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Kennard, David Gerald, L.R.C.P. Lond., Westminster Hospital.
Ketchen, Arthur Dickson, L.R.C.P. Lond., Glasgow University and University College, London.
Keyser, Charles Ralph, L.R.C.P. Lond., St. George's Hospital.
Kingdon, James Renorden, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Lambert, Hugh Llewellyn, L.R.C.P. Lond., St. Bartholomew's Hospital
Lanyon, Edgar Temple, L.R.C.P. Lond., King's College and London Hospital.
Lavers, Norman, L.R.C.P. Lond., Guy's Hospital.
Lillie, Cecil Firmin, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Lubeck, Wilfrid Joseph, L.R.C.P. Lond., University of Madras and University College Hospital.
McDonald, William Maclachlan, L.R.C.P. Lond., St. Bartholomew's Hospital.
Madge, Edward Douglas, L.R.C.P. Lond., Middlesex and London Hospitals.
Mallam, Harry Guy, L.R.C.P. Lond., Oxford University and St. Mary's Hospital.
Martin, Doveton Arthur William, L.R.C.P. Lond., Guy's Hospital.
Mathias, Richard, L.R.C.P. Lond., Cambridge University and Guy's Hospital.
Maturin, Francis Henry, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Miller, Walter Richard Samuel, L.R.C.P. Lond., St. Bartholomew's Hospital.
Montague, Aubrey Alfred, L.R.C.P. Lond., St. Thomas's Hospital.
Murseil, Henry Temple, L.R.C.P. Lond., Edinburgh University.
Nicol, William Percy, L.R.C.P. Lond., Mason College, Queen's and General Hospitals, Birmingham.
Nunn, James Henry Francis, L.R.C.P. Lond., St. Bartholomew's Hospital.
Oakley, George Gardner, L.R.C.P. Lond., St. Bartholomew's Hospital.
Ormerod, Arthur Latham, L.R.C.P. Lond., Oxford University and St. Bartholomew's Hospital.
Ormond, Arthur William, L.R.C.P. Lond., Guy's Hospital.
Owen, John Griffith, L.S.A. Lond., Charing-cross Hospital.
Palmer, Percy Allan, L.R.C.P. Lond., St. Bartholomew's Hospital.
Pearse, Athol Stewart Joseph, L.R.C.P. Lond., Cambridge University and Guy's Hospital.
Pearson, Francis James, L.R.C.P. Lond., St. Mary's Hospital.
Pilleo, Ernest George Douglas, L.R.C.P. Lond., University College Hospital.
Pisani, Orestes Victoriano, L.R.C.P. Lond., King's College Hospital.
Price, William Matthews, L.R.C.P. Lond., Guy's Hospital.
Procter-Sims, Frank Richard, L.R.C.P. Lond., Queen's College, Cork, and Guy's Hospital.
Rawling, Louis Bathe, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Ray, Walter John Orbell, L.R.C.P. Lond., St. Thomas's Hospital.
Read, Charles Stanford, L.R.C.P. Lond., University College Hospital.
Roberts, Charles, L.R.C.P. Lond., Middlesex Hospital.
Roberts, Edwin Shelton, L.R.C.P. Lond., Guy's Hospital.
Robertson, James, L.R.C.P. Lond., Guy's Hospital.
Robinson, Charles Allen, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Robinson, George Edward James Antoine, L.R.C.P. Lond., Royal College of Surgeons and St. Patrick Dunn's Hospital, Dublin.
Roe, Thomas O'Neill, L.R.C.P. Lond., University College Hospital.
Roper, Henry, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Rose, Horace, L.R.C.P. Lond., St. Mary's Hospital.
Rowlands, Robert Pugh, L.R.C.P. Lond., Guy's Hospital.
Rusby, Edward Lionel Macpherson, L.R.C.P. Lond., King's College Hospital.
Russell, John Dill, L.R.C.P. Lond., University College Hospital.
Salt, Thomas, L.R.C.P. Lond., Mason College, Queen's and General Hospitals, Birmingham.
Savage, William George, L.R.C.P. Lond., University College Hospital.
Scott, Arthur Eldon, L.R.C.P. Lond., Middlesex Hospital.
Seal, Arthur William, L.R.C.P. Lond., University College Hospital.
Selby, Henry Covernton, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Serjeant, Robert, L.R.C.P. Lond., Guy's Hospital.
Shardlow, Joseph, L.R.C.P. Lond., University College Hospital.
Sibley, Reginald Oliver, L.R.C.P. Lond., St. Mary's Hospital.
Sikes, Alfred Walter, L.R.C.P. Lond., St. Thomas's Hospital.
Sim, Roderick, L.R.C.P. Lond., Middlesex Hospital.
Sing, Wilfrid MacDonald, L.R.C.P. Lond., Cambridge University and London Hospital.
Slowan, William John More, L.R.C.P. Lond., Glasgow University.
Smith, Cyrus Walter, L.R.C.P. Lond., University College Hospital.
Smith, Gilbert, L.R.C.P. Lond., St. Bartholomew's Hospital.
Smith, Stanley Francis, L.R.C.P. Lond., St. Bartholomew's Hospital.
Stanestreet, Richard Weld, L.R.C.P. Lond., Charing-cross Hospital.
Stawell, Rodolph de Salis, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Steele, Charles Francis, L.R.C.P. Lond., University College, General Hospital, Bristol, and University College Hospital.
Stockton, Arnold, L.R.C.P. Lond., King's College Hospital.
Stowe, William Reginald, L.R.C.P. Lond., St. Bartholomew's Hospital.
Swainson, James Midleton Graham, L.R.C.P. Lond., Westminster Hospital.
Tebay, Michael Kemble, L.R.C.P. Lond., Middlesex Hospital.
Tenison, Adolf, L.R.C.P. Lond., St. Mary's Hospital.
Thomas, Daniel William, L.R.C.P. Lond., Guy's Hospital.
Thomas, Leonard Kirkby, L.R.C.P. Lond., Mason College, Queen's and General Hospitals, Birmingham.
Trotter, Wilfred Batten Lewis, L.R.C.P. Lond., University College Hospital.
Tucker, Alexander Benjamin, L.R.C.P. Lond., St. Bartholomew's Hospital.
Vertannes, Carr Aratoon, L.R.C.P. Lond., Westminster Hospital.
Walker, Alfred Ernest, L.R.C.P. Lond., Charing-cross Hospital.
Walker, Harold Albert, L.S.A. Lond., Owens College and Royal Infirmary, Manchester.
Walker, John William Thomson, L.R.C.P. Lond., Edinburgh University.
Walton, Walter Rees, L.R.C.P. Lond., University College and Royal Infirmary, Liverpool.
Warren, Ernest Downing, L.R.C.P. Lond., University College Hospital.
Webb-Ware, Hugh Robert, L.R.C.P. Lond., Oxford University and London Hospital.
Williams, Joseph William, L.R.C.P. Lond., Middlesex Hospital.
Wills, James Tremlett, L.R.C.P. Lond., Cambridge University and Middlesex Hospital.
Winter, William Cecil Pollard, L.R.C.P. Lond., Guy's Hospital.
Woodman, William James, L.R.C.P. Lond., St. Mary's Hospital.
Worger, Richard George, L.R.C.P. Lond., University College and Royal Infirmary, Bristol, and Guy's Hospital.
Worth, Reginald, L.R.C.P., Lond., Durham University and St. Mary's Hospital.
Wrangham, William, L.R.C.P. Lond., St. Bartholomew's Hospital.
Yorke-Davies, John Wynne, L.R.C.P. Lond., Charing-cross Hospital.
Yum-Busch, Josef Paul, L.R.C.P. Lond., Freiburg, Munich, Kiel, Bonn and Paris Universities.

The following gentlemen having passed the necessary examinations have been admitted Diplomates in Public Health of the Royal Colleges of Physicians of London and Surgeons of England:—

Birdwood, Gordon Travers, M.R.C.S. Eng., L.R.C.P. Lond., M.B., B.C. Camb. (Surgeon-Lieutenant Bengal Army), of Cambridge University and Guy's Hospital.
Bowen-Jones, Lloyd Middleton, M.R.C.S. Eng., L.R.C.P. Lond., Guy's Hospital.
Brown, Francis Wheeler, M.R.C.S. Eng., L.S.A. Lond., London Hospital.
Dorrell, Edmund Arthur, M.R.C.S. Eng., L.R.C.P. Lond., University College and Royal Infirmary, Bristol.
Hewlett, Richard Tanner, M.R.C.S. Eng., M.R.C.P. Lond., M.D. Lond., King's College Hospital.
Hline, Alfred Ernest Barratt, M.R.C.S. Eng., L.R.C.P. Lond., Charing-cross Hospital.
Ingall, Frank Ernest, F.R.C.S. Eng., L.R.C.P. Lond., London Hospital.
Johnston, Charles Arthur, M.B., C.M. Edin. (Surgeon-Captain Madras Army), Edinburgh University.
Leon, George Alexander, M.R.C.S. Eng., L.R.C.P. Lond., M.D. Brux., University College and London Hospital.
Rendle, Anstruther Cardew, M.R.C.S. Eng., L.R.C.P. Lond., M.B. Camb., Cambridge University and St. Mary's Hospital.
Senior, Arthur, M.B., B.C. Camb., Cambridge University, St. Mary's, and King's College Hospital.
Storr's, Eric Gleadow, M.R.C.S. Eng., L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds, and King's College Hospital.
Tibbetts, Thomas Major, M.R.C.S. Eng., L.R.C.P. Lond., M.B. Lond., Mason College, Queen's and General Hospitals, Birmingham.
Topping, John Philip, M.B., C.M. Glasg., Glasgow University, King's College, and St. Thomas's Hospital.
Vickers, Charles William, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A. Lond, London Hospital and King's College Hospital.

Thirteen gentlemen were referred for six months.

UNIVERSITY OF EDINBURGH.—The following is the official list of candidates who have completed the First

Professional Examination for degrees in Medicine and Surgery:—

Robert Affleck, Nisar Ahmed, Henry Alexander, C. M. Anderson, John Anderson, W. L. G. Anderson, H. E. Arbuckle, B. H. S. Aylward, M. C. Beatty, J. H. Bell, L. N. Biggs, A. B. Black, O. C. Bradley, William Brown, G. F. Bulst, R. A. Cameron, J. P. Campbell, G. S. Carmichael (with distinction), Lilian M. Chesney, A. D. S. Cooke, G. G. Cumming, Jane E. Dallas, G. C. V. K. Davidson, S. L. Dawkins, John Duncan, William Eadie, S. R. Ellis, J. S. Enslin, David Ewart, William Ewart, Andrew Fleming, Charles Fraser, W. E. Frost, A. W. Fuller, J. C. Gilchrist, Norman Glegg, S. E. Goggin, St. L. H. Gribben, P. S. Haldane, G. H. Hanna (with distinction) Frederick Hardie, N. E. Harding, W. E. Herbert, Davis Heron, Eleanor Hodson, D. B. B. Hughes, W. T. James, E. B. Jamieson, J. G. S. Jamieson, M. E. Jones, J. C. Kennedy, F. K. Kerr, S. M. de Kock, L. S. Lessing, G. H. Lewis, P. N. M. Macdonald, J. G. M'Dougall, Sara L. M'Elderry, Wilfrid M'Farlane, W. K. M'Farlane, J. G. MacKenna, D. S. MacKnight, P. A. Maclagan, Harriet J. C. Maclaren, Angus M'Nab, G. W. P. Maitland, Arthur Martin, K. D. Melville, E. G. D. Menzies, R. M. Mitchell, James Munro, A. W. Nankervis, Solomon Neumark, Caroline E. O'Connor, James C. Parker, William Paterson, Norman Patterson, Peterswald Pattison, C. B. Paul, Mary C. Pepper, E. J. Porteous, J. B. Primmer, J. R. Prytherch, Samuel Rattray, L. C. P. Ritchie, D. J. Roberts, J. K. A. Robertson, John Ross, W. C. Ross, A. L. Roxburgh, James Scobie, J. B. Scott, W. S. Scott, S. R. Sibbald, H. O. Smith, C. B Snow, Stephen Southall, A. D. Spence, A. J. Spiganovicz, Eleanor R. Sproull, T. G Stewart, Elbert Steyn M. A. Swan (with distinction), Emily C. Thomson, J. W. N. Thomson, J. H. Thornley, Alexander Trotter, Alexander Tweedie, K. H. H. Uffmann, Isabel B. Venters, N. N. Wade, A. G. Watson, A. S. Watson, N. S. Wells, G. D. Whyte, F. M. Wigg, A. J. Williamson, A. W. Wilson, George Wilson, A. M. Wood, and Garnett Wright.

The following is the official list of candidates who have completed the Second Professional Examination for degrees in Medicine and Surgery:—

A. L. Anderson, W. N. Barker (with distinction), E. F. Bashford, F. P. Bester, S. C. Bose, E. R. Branch, A. E. Brookes, Robert Bruce, E. H. Brunt, H. M. Bundey, C. J. Caddick, I. D Cameron, Robert Cameron, Robert Carswell, A. L. S. Coghill, E. F. Coghlan, Robert Crawford, F. P. Crowther, E. F. Cyriax, George Drummond, Henry Duckworth, C. L. Dunn, R. W. T. Ewart, Stewart Faed, G. W. Fitzgerald, J. G. Forbes, Alexander Fordyce, Charles Forsyth, A. F. Fraser, Edmund Frost, Robert Gellatly, A. B. George, J. F. Gibbon, H. E. Gibbs, H. A. H Gillmer, F. J. Gray, J. M. Gray, A. A. Gunn, A. G. Hamilton, Græme Hamilton, Joseph Hunter, J. W. Ingles, Clarence King (with distinction), F. O. Lasbrey, T. C. Lauder, Evariste Laval, James Leggate, P. A. Leighton, L. S. L. Liddell, A. W. Limont, A. M. Little, William Lockerbie, J. S. Low, P. L. M'Ail, A. J. M'Clymont, M. R. M'Dougall, A. C. M'Gilchrist, M.A. (with distinction), A. M. M'Intosh, William M'Kay, E. C. G. Maddock, M. B. Marshall, Ruth Massey, C. A. Mayne, W. P. Meldrum, C. W. F. Melville, L. H. B. Mills, James Monroe, B. E. Myers, B. K. Nariman, T. M. Ness, M.A., A. S. Parker, F. M. Parry, G. H. Parry, L. D. Parsons, H. K. Paxton, H. R. Phillips, Thomas Pretsell, F. W. Price, William Raine, J. M. Reid, J. H. Rhodes (with distinction), F. W. Rigby, J. R. Roberts, B.Sc., G. A. Rorie, J. E. Rosenstein, Alfred Shearer, A. B. Shed, J. A. Shoolbread, Edgar Somerville, J. F. Stewart, William Tarr, W. E. Tellet, W. B. Thain, A. H. Thomas, A. H. Thompson, P. G. Leeb-du-Toit, A. K. Traill, G. R. Twomey, R. C. Verley, Henry Wade, W. E. J. Wallis, D. B. Waters M.A., A. E. P. Wood, and A. H. Wood.

The following is the official list of candidates who have passed the Third Professional Examination for the degrees of M.B. and Ch.B.:—

A. J. T. Allen, H. L. S. D. Belasco, Leonard Boyer, W. S. Eaton, W. H. Fowler, Gideon Fourie, William Gorrie, W. G. Heath, A. H. Keun, J. W. M'Intosh, W. E. M'Kechnie, G. W. Miller, E. F. M. Neave, J. H. P. Paton, H. K. Paxton, A. H. Pirie, C. M. Robertson, G. H. Stewart, and C. P. B. Wall.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.—The following exhibitions, prizes, and certificates have been awarded for the year 1896-97: The William Brown Exhibition of £40 a year for three years, Mr. Horace M. Vernon, B.A.; the Brackenbury Prize in Medicine, Mr. H. M. Vernon, B.A.; the Brackenbury Prize in Surgery, Mr. C. R. Keyser; the Treasurer's Prize, Mr. H. M. Cooper; the Acland Prize, Mr. J. Howell Evans, B.A.; the Brodie Prize, Mr. H. M. Vernon, B.A.; the Webb Prize, Mr. H. G. Deller, B.A.; the Henry Charles Johnson Prize in Anatomy, Mr. H. G. Drake-Brockman, and certificates of honour to Mr. J. F. Paul and Mr. A. S. Morley; the Pollock Prize in Physiology, Mr. Lawrence Pick, and a certificate of honour to Mr. H. G. Drake-Brockman; Sir Charles Clarke's Prize, Mr. H. N. Coltart; the third year's proficiency prize, Mr. W. F. Tyndale; the second year's proficiency prize, Mr. H. G. Drake-Brockman, and a certificate to Mr. T. M. Neatby, M.A.; the first year's proficiency prize, Mr. H. R. D. Spitta, and a certificate to Mr. L. F. Cope.

FOREIGN UNIVERSITY INTELLIGENCE.—*Clausenburg:* Dr. Buday has been promoted to the Professorship of Pathological Anatomy and Histology.—*Prague (Bohemian University):* Dr. Kimla has been recognised as *privat-docent* in Pathological Anatomy, and Dr. Schrutz as *privat-docent* in the History of Medicine and Epidemiology.—*St. Petersburg (Military Medico-Chirurgical Academy):* Dr. Sirolnin has been promoted to the ordinary professorship of Pathological Anatomy and Histology.—*Tübingen:* Dr. Gudden has been recognised as *privat-docent* in Psychiatry.—*Vienna:* Dr. Riedl has been recognised as *privat-docent* in Experimental Pathology.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. Richard A. Prichard, L.R.C.P. Edin., M.R.C.S. Eng., of Conway, has received the gift of a morocco silver-mounted blotting-pad and a silver-mounted ivory paper-knife from the ladies' class of the Conway branch of the St. John Ambulance Association as tokens of appreciation for his instructive lectures to the class.—Mr. Cecil A. P. Osburne, F.R.C.S., L.R.C.P. Edin., of Hythe, Kent, on his relinquishing his practice in that town, has been presented by the inhabitants with a handsome silver salver as a testimony of their esteem.

BEQUESTS AND DONATIONS TO HOSPITALS.—The committee of management of King's College Hospital has received donations of £100 from Mr. C. Austen-Leigh, £100 from Lord Iveagh, and £500 4 per cent. debenture stock Lambeth Waterworks from Mrs. C. F. Courthope for the endowment of a cot.—The Tottenham Hospital has received a gift of £1000 from Mrs. Morley, widow of the late Mr. John Morley.—The Hospital for Diseases of the Throat, Golden-square, London, has received £1000 from the executors of the late Miss Harriet Hopkins, £100 from Messrs. Rothschild and Sons, £100 from Mr. H. W. Prescott, £105 from Messrs. Pember and Boyle, and £100 from Mr. Edmund Hope.—The North London Consumption Hospital, Hampstead, has received £105 from the Worshipful Company of Mercers.—The National Hospital for Consumption, Ventnor, Isle of Wight, has received a further donation of £105 from Sir Richard E. Webster.—The Chelsea Hospital for Women, Fulham-road, has received £105 from Mr. H. E. Wright and £105 from Sir C. Mosley, Bart.—The London Temperance Hospital, Hampstead-road, has received £105 from Mr. J. J. Tustin and £100 from Mr. H. Varner.—The St Mary's Hospital, London, has received donations of £105 from Mr. Herbert J. Allcroft, £105 from the Corporation of the City of London, £200 from the trustees of Smith's (Kensington estate) Charity, and under the will of the late Miss E. C. Darling £889 7*s.* 7*d.*—The Alexandra Hospital for Children with Hip Disease, Queen's-square, Bloomsbury, has received £500 from "Anonymous" in aid of the building fund.—Guy's Hospital, London, has received £200 from Lord Salisbury and £300 from "Anonymous" towards the re-endowment fund, and also £2000 from the executrix of the late Mr. W. H. McAlpine of Brighton for endowing in perpetuity two beds to be called the "William Henry McAlpine Beds."—Queen Charlotte's Lying-in Hospital, Marylebone, London, has received £100 from the Rev. Sir Talbot H. B. Baker, Bart.—The Metropolitan Convalescent Institution, Walton-on-Thames, Broadstairs, and Bexhill-on-Sea, has received £100 from Lord Portman towards the building fund of the new children's branch at Broadstairs.—The New Convalescent Home for Railway Men, St. Leonards, has received towards the building fund £500 from Mr. T. A. Denny, £500 from Mr. S. G. Sheppard. £250 from Mr. E. M. Denny, £250 from Mr. John Cory. £250 from Mr. H. Morley, £100 from Lord Kinnaird, and £100 from Mr. J. F. Deacon.—The West London Hospital, Hammersmith-road, has received £889 7*s.* 7*d.* from the executors of the late Miss E. C. Darling.—The Seaside Convalescent Hospital, Seaford, Sussex, has received £105 from Mr. Chas. Gassiot.—The Merthyr General Hospital has received £1000 towards the construction of an accident ward from Sir W. F. Lewis, Bart.—The late Mr. J. C. Arkwright of Crawford, bequeathed £300 to the Derby Infirmary and £100 to the Wirksworth Cottage Hospital.—The workmen of Sir W. C. Armstrong and Co. at Elswick have contributed £411 3*s.* 3*d.* to the local charities for the quarter ending June 30th last, of which £281 18*s.* 3*d.* was apportioned to the Royal Infirmary.—The late Colonel W. H. H. Broadley of Welton House, Yorkshire, has bequeathed £100 each to the Hull Royal Infirmary, the Hull Victoria Hospital, and the Beverley Dispensary.—The late Mr. W. Debenham of Nevill Park, Tunbridge Wells, bequeathed £1000 each to the Middlesex Hospital, the East London Hospital for Children and Dispensary for Women, the Paddington-green Children's Hospital, the St. Mary's Hospital, Paddington, the London Fever Hospital, the Samaritan Free Hospital, the Tunbridge Wells General Hospital, the Hospital for Incurables, the Cancer

Hospital, the Hospital for Consumption and Diseases of the Chest at Brompton, and the Royal National Hospital for Consumption and Diseases of the Chest at Ventnor, and £500 to the Hospital for Incurable Children in Maida-vale.—The late Mr. George Stuckey Lean, J.P. for Somerset, of Lyde House, Bath, left the following legacies, free of duty: £500 each to the Royal United Hospital, Bath; Royal Mineral Water Hospital, Bath; Bristol Royal Infirmary, and Bristol General Hospital: £300 each to the Taunton and Somerset Hospital, Bridgwater Infirmary, and Weston-super-Mare Convalescent Home: £200 each to Combe Down Convalescent Home, Eastern Dispensary, Bath, and Bath Eye Infirmary: £100 each to the Southern Dispensary, Bath; Western Dispensary, Bath; Bath Ear and Eye Infirmary; and the Nurses' Institute in connexion with the Royal United Hospital, Bath.

DIPHTHERIA IN LONDON.—The decline in the number of deaths registered from diphtheria in London during the last week of July by comparison with the records of earlier weeks of that month was not maintained in the week that followed. In the three middle weeks of last month the deaths were respectively 47, 55, and 50, and these numbers gave place to 43 in the seven days ended Aug. 1st. Even this lower number was 9 above the corrected average for the thirty-first week of the decennial period 1886-95. Of the 43 deaths 7 belonged to Islington and 5 to Camberwell sanitary areas. Only one death occurred in an infant under one year of age, and all the rest took place in young persons under twenty years of age. In addition to the 43 in the county of London there were 9 deaths in Greater London, 5 of these being of residents in the West Ham district, and 2 of persons living in Tottenham. There were 93 admissions to hospitals from the Metropolitan area, and the number of patients remaining under treatment in these institutions on Saturday, Aug. 1st, was 710. In the succeeding week, however, the record of fatal diphtheria in London showed 54 deaths, or 17 in excess of the corrected decennial average for the particular week. Camberwell claimed 9 of the total, and Chelsea and Battersea 4 deaths each. The northern groups of districts claimed 10, and the southern group 23 deaths. Over and above these deaths occurring in the metropolis proper there were a dozen deaths registered in the suburbs, of which 2 were in South Mimms district and 2 each in Tottenham and Enfield. Thus there were in the fortnight no fewer than 118 deaths from diphtheria in and around London. Of the 54 deaths in London proper last week there were 52 in persons aged under twenty years. Interest will attach to the next few weeks to see what effect, if any, the closing of the elementary schools has had on the death-roll from this disease in London.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Cost of the Vaccination Commission.

THE announcement is made by the Treasury that the total cost of the Royal Commission on Vaccination up to March 31st of the present year was £16,702. The Commission was appointed in 1889.

Experiments on Living Animals.

The usual Home Office return on this subject shows that during 1895 the total number of licensees was 213, of whom sixty-five performed no experiments, and the total number of experiments 4679. The inspector (Dr. G. V. Poore) says of the licensees that they "have, as usual, manifested strict loyalty to the letter and spirit of the Act, only two cases of irregularities on the part of licensees having called for any special notice on the part of the Secretary of State."

Metropolitan Poor-law Children.

In the House of Commons on Aug. 10th, when the vote for the Local Government Board came to be discussed, there was a good deal said on this subject and the report of the committee which recently inquired into it. Mr. Hazell condemned in very strong terms the present system of large barrack schools, where, he said, the children were neither so well cared for nor educated as in ordinary schools. Mr. Chaplin addressed himself principally to the report of the committee. He regretted that it did not throw more light on the constitution of the central authority which was recommended and through which the reforms the committee desired were to be obtained. A central authority might be created in many ways. They might create an entirely new one by legislation; they might adopt the Metropolitan Asylums Board; or they might avail themselves of their powers under the Metropolitan Poor-law Act of 1867. Mr. Chaplin confessed that it was becoming clear to him that there were some classes of children who could be better dealt with by a central authority than by any other means. He would take the case of those unfortunate children who were suffering from disease, and especially from ophthalmia. There could be no question but that this was a most serious evil at the present time, and the Local Government Board, recognising this fact, had instructed Dr. Sydney Stephenson to examine and report on the eyes of all the children in the different institutions where pauper children were maintained. When they had received his report they would be in a better position to consider the most effective mode of dealing promptly with this part of the question. It was stated in the report of the committee that in 1874 Mr. Nettleship reported that nearly 80 per cent. of the children at Hanwell had had ophthalmia, but he was informed that out of the 900 or 1000 children there at the present time only fifty had the disease, and they were all of them in the ophthalmic school. If these results could be obtained on a small scale at a place like Hanwell he saw no reason why it should not be done on a larger scale for all the children in the pauper schools of London. Possibly, also, the question of convalescent homes and their management might be dealt with advantageously in the same way. Mr. Chaplin dealt with other points in the report, and without committing himself one way or the other he undertook to give the whole question his most careful consideration.

HOUSE OF COMMONS.

THURSDAY, AUG. 6TH.

Vaccination Commission.

Mr. Thomas Bayley asked the Secretary of State for the Home Department whether, seeing that the Royal Commission on Vaccination had been sitting over six years, he could hold out any hopes that they would be able to publish the result of their investigations in time for the report to be laid before the House by the end of the present session.—Sir Matthew White Ridley replied that the Commissioners hope to be able to submit their report to Her Majesty in time for its presentation to Parliament before the close of the session. If, however, they were unable to do so the report would be, by Her Majesty's permission, presented in dummy, with a view to its being circulated to Members during the recess. In either case it would be, he hoped, in the hands of Members within the next four or five weeks.

FRIDAY, AUG. 7TH.

Candidates for the Army Medical Department.

Mr. Brodrick, Under Secretary of State for War, in reply to a question on this subject put by Captain Norton, said that thirty-one candidates have applied, their completed ages varying from twenty-two to twenty-seven years, with an average of twenty-four years and eight months.

Supplies for the Army.

Colonel Russell asked the Financial Secretary to the War Office whether the Government, after the careful consideration which they promised at the commencement of the Session to give to this subject, had come to any decision regarding the supply of food and forage to the Army; and whether they saw their way to giving our own in place of foreign agriculturists the benefit of the money paid by the taxpayers in this country for the support of the defensive forces of the Empire.—Mr. Powell Williams replied that it had not been possible to arrive at any decision regarding the supply of meat and forage to the army. The question was one involving many serious points, not the least of which were those relating to expense and to change in the present military system. The inquiries were being pursued in the hope that some solution of the question might be found which either wholly or in part might meet the object which the hon. and gallant Member had in view.

India and the Contagious Diseases Acts.

Major Rasch asked the First Lord of the Treasury whether he would consider the advisability of appointing a committee next session to inquire into the working of the Contagious Diseases Acts with reference to the British Army quartered in India.

Mr. James Stuart asked the right hon. gentleman whether his attention had been called to the views repeatedly expressed by the Army Sanitary Commission that the system of the Contagious Diseases Act in India had proved a failure and that its reinstitution could not consequently be advocated on sanitary grounds; and whether, considering these views and the strong opposition which exists to such measures on moral grounds, the Government would direct the attention of the Indian authorities to the memoranda on the subject by the Army Sanitary Commission and to the remedial measures suggested by them.

Mr. Balfour, in reply, said there was no doubt as to the gravity of the present state of things, but he understood there was a dispute whether and how far this state of things was due to recent legislation. The Government would consider the propriety of an inquiry either by committee or otherwise to decide the controversy as to the facts.

The East London Water Supply.

Mr. Pickersgill asked whether the attention of the President of the Local Government Board had been called to the report of an inquest on a child held at Poplar on Monday last, when Mr. Cooper Harrison, the medical witness, attributed the existing prevalence of fatal cases of diarrhœa among children in the East-end of London to the scanty supply of water, and also stated that in his own house the water was not turned on more than one hour a day and that there was a filthy deposit in the water supplied; and whether, in these circumstances, he would make further representations to the East London Company of the urgent necessity for improving both the quantity and the quality of the water which they were supplying to their customers.—Mr. T. W. Russell, on behalf of Mr. Chaplin, made the following reply:—The President has seen the report which has appeared in the newspapers of the inquest, and is aware of the statements of Mr. Harrison which are

referred to in the question. As regards the supply of water to Mr. Harrison's house the President is informed by the East London Company that the supply of water was from seven to nine in the morning and from one to three in the afternoon. This supply was for four hours, and he is unable to give any explanation of the supply being for less than six hours. With regard to the quality of the water, the company have forwarded samples of water which were yesterday drawn from the communication pipe supplying Mr. Harrison's house, and, so far as these samples are concerned, there is no evidence of any turbidity or other deposit in the water supplied, and the Local Government Board are not aware of any general complaint as to the quality of the water. As regards the prevalence of fatal cases of diarrhœa among young children in the East-end of London, the President understands that the usual autumnal increase of diarrhœa has been somewhat exceptional this year both in London and in many other towns. There is generally an exceptional increase when excess of temperature is combined with deficient rainfall, but there is no evidence to show that there is any increase in deaths from this cause in East London in consequence of the diminished supply of water in the district. Indeed, the published returns for the last few weeks show that in certain divisions of London and other towns where there has been no deficiency in the water-supply the increase in the number of deaths from diarrhœa has been greater than in the East district of the metropolis. The President has been in constant communication with the East London Company, and he has no reason to doubt that they are fully realising the necessity of giving as large a quantity of water as the circumstances will admit.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.
The Objects and Limits of Operations for Cancer. Being the Lettsomian Lectures for 1896. By W. Watson Cheyne, M.B., F.R.S., F.R.C.S. 1896. Price 5s.
Aids to Obstetrics. By Samuel Nall, M.B., D.P.H. Cantab., M.R.C.S. Fifth Edition. 1896.

BALE, JOHN, AND SONS, Great Titchfield-street, Oxford-street, London.
The Causes and Treatment of Rheumatoid Arthritis. By Samuel Hyde, M.D. 1896. Price 3s. 6d.

BERGMANN, J. F., Wiesbaden.
Ergebnisse der Speziellen Pathologischen Morphologie und Physiologie der Sinnesorgane. Von O. Lubarsch und R. Ostertag. 1896.
Anleitung zur Berechnung der Erwerbsfähigkeit bei Sehstörungen. Von Dr. A. Groenouw. 1896.

CASSELL AND COMPANY, London.
Food in Health and Disease. By J. Burney Yeo, M.D., F.R.C.P. Illustrated. New and Revised Edition. 1896. Price 10s. 6d.

CHURCHILL, J. & A., Great Marlborough-street, London, W.
Surgical Emergencies. By Paul Swan, F.R.C.S.. Fifth Edition. 1896. Price 6s.
The Physiology and Pathology of the Cerebral Circulation: An Experimental Research. By L. Hill, M.B. 1896. Price 12s.
Commercial Organic Analysis. By A. H. Allen, F.S.C., F.C.S. Second Edition. Vol. III. Part 3. 1896. Price 16s.
Abdominal Surgery. By J. Greig Smith, M.A., F.R.S.E. Fifth Edition. Vols. I. and II. Price 36s.

HIRSCHWALD, A., Berlin.
Encyklopädie der Therapie. Von C. Liebreich. Erster Band, 3. Abtheilung. 1896.

KIMPTON, H., High Holborn, London; and HIRSCHFELD BROS., Fetter-lane, London, E.C.
Obesity: Its Cause and Treatment. By Thos. Dutton, M.D. Durh. 1896. Price 1s. 6d. net.

LEA BROTHERS AND CO., New York and Philadelphia.
System of Surgery. Edited by F. S. Dennis, M.D.; assisted by J. S. Billings, M.D. Vol. IV. 1896.

MACMILLAN AND CO., London.
Deformities. A Treatise on Orthopædic Surgery. By A. H. Tubby, M.S. Lond., F.R.C.S. Illustrated. 1896. Price 17s. net.

RENSHAW, HENRY, Strand, London.
The Laboratory Text-book of Public Health. By Wm. R. Smith, M.D., D.Sc., F.R.S. Edin. 1896.

SAMPSON LOW, MARSTON, AND CO., Fetter-lane, Fleet-street, London.
Twentieth Century Practice. Edited by T. L. Stedman, M.D. In twenty volumes. Vol. VI. Diseases of the Respiratory Organs. 1896. Price 21s.

UNWIN, T. F., Paternoster-buildings, London, E.C.
The London Burial Grounds. By Mrs. Basil Holmes. Illustrated. 1896. Price 10s. 6d. net.

WRIGHT, JOHN, AND CO., Bristol.
Rheumatoid Arthritis: Its Pathology, Morbid Anatomy, and Treatment. By G. A. Baunatyne, M.D. Glasg., M.R.C.P. Ed. 1896. Price 7s. 6d., net.
Our Baby: For Mothers and Nurses. By Mrs. Langton Hewer. Fourth Edition. 1896. Price 1s. 6d.

WILLIAMS AND NORGATE, Henrietta-street, Covent Garden, London.
Die Mikrotechnik der Thierischen Morphologie. Von Dr. Stefan Apáthy. Erste Abtheilung. 1896. Price 1s. 9d.
Monatsschrift für Geburtshülfe und Gynäkologie. Band 4. Juli, 1896. Heft 1.

Galvanism in the treatment of Neuritis and other Diseases; by Carey Coombs, M.D. Lond.; illustrated (J. Wright and Co., Bristol, 1896); price 1s.—The Claims of Common Life; by Jos. Oldfield (Ideal Publishing Union, Fleet-street, London); price 1s. Magazines, &c., for August:—Strand Magazine, Boys' Own Paper, Girls' Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Architecture, Chapman's Magazine, Myra's Journal, Knowledge, Pall Mall Magazine, Windsor Magazine.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BANKS, ALFRED, F.R.C.S. Eng., L.R.C.P. Lond., D.P.H., has been appointed Assistant Surgeon to the Royal Isle of Wight Infirmary and County Hospital.

BEDDOE, D. M., F.R.C.S., has been appointed House Surgeon to the Newport and Monmouthshire Hospital, vice Richard Coates, resigned.

BELLIS, EDWARD, L.R.C.P. & L.R.C.S. Irel., has been appointed Surgeon to the employés on the West London Central Electric Railway, Section 1, 2, and 3.

BLACK, Professor D. CAMPBELL, M.D. Glas., has been appointed Examiner in Physiology in the University of St. Andrew's.

BURDWOOD, J. W., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health for the Bourne Rural Sanitary District.

CLARK, H. J., L.R.C.P. Lond., M.R.C.S., has been appointed a Clinical Assistant, Chelsea Hospital for Women, Fulham-road, London.

CURRIE, H. B., M.B., C.M. Glasg., has been appointed Assistant Medical Officer for the North-Eastern Hospital for Children, Hackney-road, Shoreditch.

DOCHARD, A. T., M.B., C.M. Edin., has been re-appointed Medical Officer for the Whitefield Sanitary District of the Bury Union.

DUNN, P. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Stevenage Sanitary District of the Hertfort Union.

DYER, H. G., M.D. Durh., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Ringwood District Council.

EDMUNDS, PERCY, M.B. and B.Sc. Lond., has been appointed Medical Officer under the London County Council to No. 7 District (Fire Brigade, &c.), vice James C. Hoyle, resigned.

FRIEL, A. R., M.D. Dubl., has been appointed a Clinical Assistant, Chelsea Hospital for Women, Fulham-road, London.

FISHER, THOS., M.R.C.S., has been re-appointed Medical Officer of Health by the Garstang Rural District Council.

GARDNER, H. W., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed a Physician, Salop Infirmary, Shrewsbury.

GENGE, G. F. S., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed House Physician to Westminster Hospital.

GRANT, C., M.B., C.M. Aberd., has been appointed Medical Officer for the Priors Marston Sanitary District of the Southern Union.

HAYDON, W. R., M.D., C.M. Glasg., has been re-appointed Medical Officer of Health by the Tiverton Rural District Council.

HOYLE, JOHN, M.B., C.M. Edin., has been appointed Medical Officer and Public Vaccinator for the Ripponden Sanitary District of the Halifax Union.

JONES, RICHARD, M.D., C.M. Edin., D.P.H. Camb., has been re-appointed Consulting Medical Officer of Health by the Merioneth County Council.

LAMPLOUGH, C., M.R.C.S., L.R.C.P., has been appointed Resident Medical Officer to the City of London Hospital for Diseases of the Chest, Victoria-park, E., vice G. P. Chappel, resigned.

LAKE, WM. W., M.R.C.S., D.P.H. Camb., has been re-appointed Medical Officer of Health by the Guildford Rural District Council.

LEE, WILLIAM E., M.R.C.S., L.S.A., has been appointed Honorary Medical Adviser to the South-West Auxiliary of the Sunday School Union.

LITTLEWOOD, J. C., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Blackwell Rural District Council.

LOYND, WM., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health by the Oswaldtwistle District Council.

MANNING, GUY E., L.R.C.P. Lond., M.R.C.S., has been appointed House Physician, Sunderland Infirmary, vice B. Cox, resigned.

MILLER, J. N., M.B., C.M. Glasg., has been re-appointed Medical Officer of Health by the Wombwell Urban District Council.

MORCOM, A., L.R.C.S., L.M. Edin., has been re-appointed Medical Officer of Health by the Marvate District Council.

PARK, D. S., L.R.C.P., F.R.C.S. Edin., has been re-appointed Medical Officer of Health for the Northern Division of the Rural Sanitary District of the Houghton-le-Spring Union.

PARKER, H. T., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Assistant Medical Officer, Eastern Hospital, Homerton.

PENNY, F. S., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon, Sunderland Infirmary, vice Baines.

SPINK, E. W., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Deputy Medical Officer, Bedale.

STOKES, A. S., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer for the Weldon Sanitary District of the Oundle Union.

SUTTON, J. B., L.R.C.P. Lond., has been appointed Medical Officer for the Hedgerley Sanitary District by the Eton Rural District Council.

THOMAS, J. LYNN, F.R.C.S. Lond., has been appointed Consulting Surgeon to the Cardiff Provident Dispensary, vice C. E. Hardyman, resigned.

WEINMAN, C. F., M.B., C.M., has been appointed a Clinical Assistant, Chelsea Hospital for Women, Fulham-road, London.

WITHERS, R. W. O., L.R.C.P. Lond., M.R.C.S., has been appointed Physician Extraordinary, Salop Infirmary, Shrewsbury.

WOOLLACOT, F. J., M.B., C.M. Oxon., has been appointed Assistant Medical Officer, Eastern Hospital, Homerton.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRADFORD UNION WORKHOUSE.—Resident Assistant Medical Officer, unmarried. Salary £100 per annum with prescribed rations, washing, and apartments in the Workhouse. Applications to the Clerk to the Guardians, 22, Manor-row, Bradford, Yorkshire.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, London, S.W.—Two Clinical Assistants. Appointments tenable for three months on payment of a fee of £5 5s.

CHILDREN'S HOSPITAL, Nottingham.—House Surgeon, non-resident, for six months. Salary at the rate of £100 per annum.

CITY OF SHEFFIELD.—Assistant Resident Medical Officer for the two City Hospitals for the Treatment of Cases of Infectious Disease. Salary £120 per annum, with board, lodging, and attendance. Applications to the Town Clerk, Town Clerk's Office, Sheffield.

EARLSWOOD ASYLUM FOR IDIOTS, Redhill, Surrey.—Medical Superintendent. Salary £500, with furnished residence in the building, together with coals and gas. Applications to the Board of Management at the offices, 35, King William-street, London Bridge, E.C.

FINSBURY DISPENSARY, Brewer-street, Goswell-road, E.C.—Resident Medical Officer for one year. Salary £100 per annum, with a furnished residence in the institution, attendance, coals, and gas.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury, Manchester.—Junior Resident Medical Officer for one year. Salary £80 per annum, with board and lodging.

MANCHESTER CLINICAL HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham Hill-road.—House Surgeon. Salary £80 per annum, with apartments and board.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer, unmarried, for twelve months. Salary £150 per annum, with board and residence.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL, Sunderland.—House Surgeon, unmarried. Salary £80 per annum, with board, residence, and washing.

OWENS COLLEGE, Manchester.—A Senior and a Junior Demonstrator in Physiology. The stipends will be £150 rising to £200, and £100 rising to £150 respectively.

ROYAL FREE HOSPITAL, Gray's inn-road, London, W.C.—House Physician for six months. Board, &c., provided.

ROYAL ISLE OF WIGHT INFIRMARY AND COUNTY HOSPITAL, Ryde.—House Surgeon and Secretary. Salary £60 per annum, with residence, board, and washing.

SUFFOLK COUNTY ASYLUM.—Assistant Medical Officer, unmarried. Salary to commence at £120, rising £10 yearly to £140, with board, lodging, &c., but without alcohol. Applications to Resident Physician, Suffolk County Asylum, Melton, Woodbridge.

Births, Marriages, and Deaths.

BIRTHS.

GEORGE.—On Aug. 5th, at 42, Church-street, Grove-road, N.W., the wife of Isaac George, L.R.C.P., of a son.

MACNAB.—On Aug. 7th, at The Old Parsonage, Itchen, Hants, the wife of Surgeon-Captain A. J. Macnab, F.R.C.S., Medical Officer, Queen's Own Corps of Guides, of a daughter.

REYNOLDS.—On Aug. 6th, at 81, Hornsey-rise, N., the wife of Austin Edward Reynolds, M.R.C.S. Eng., &c., of a son.

THOM.—On Aug. 8th, at Parkview, Barlinnie, Glasgow, the wife of J. Maxtone Thom, M.B., C.M., of a daughter.

MARRIAGES.

VERNON—FARRANT.—On Aug. 5th, at St. Mary de Crypt, Gloucester, John Justinian Vernon, M.B., of Stockport, to Helena Sophia Englefue Farrant, second daughter of Staff-Commander Dover Farrant, R.N., Dockmaster, Gloucester.

WATKIN WILLIAMS—SKILBECK.—On Aug. 6th, at St. Anselm's Church, Pinner, by the Rev. C. E. Grenside, M.A., Vicar of the Parish, assisted by the Rev. H. D. Macnamara, M.A., Rector of St. James's, Garlick-hythe, London, Priest in Ordinary to the Queen, and the Rev. H. W. Walsh, M.A., Penrose Lanyon Watkin Williams, M.R.C.S., L.R.C.P., of Dunster, Somerset, second son of the late Hon. Mr. Justice Watkin Williams and of Lady Watkin Williams, to Ellin Margaret, second daughter of George Thornton Skilbeck, Esq., of Clonard, Harrow Weald, Middlesex.

DEATHS.

CLARK.—On July 8th, in Jamaica, James Henry Clark, M.R.C.P., L.R.C.S., &c., only surviving son of the Rev. T. H. Clark, of the London Missionary Society, in his 80th year.

GOWLLAND.—On Aug. 11th, at Gloucester-terrace, Hyde-park, Peter Yeames Gowlland, F.R.C.S., late of 34, Finsbury-square, in his 72nd year.

MILLAR.—On Aug. 6th, at Portslown-road, Maida-vale, W., Robert Millar, M.D., Surgeon-Major H.M.'s Bombay Army (retired), late of 30, Sackville-gardens, Aldrington, Hove, aged 72.

THORNTON.—On Aug. 3rd, Henry Jelfe Thornton, L.R.C.P. & S. Edin., late of Uppingham, Rutland, aged 41 years.

WEBB.—On Aug. 9th, at 18, Lupus-street, St. George's-square, S.W., John Craske Webb, M.D., M.R.C.S., L.M., L.S.A., aged 63.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 13th, 1896.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Maximum Temp Shade	Min Temp	Rainfall	Remarks at 8.30 A.M.
Aug. 7	30·09	N.	59	55	98	70	53	...	Hazy
,, 8	29·99	N.E.	58	56	82	65	55	...	Overcast
,, 9	30·04	N.E.	62	59	95	65	55	0·10	Cloudy
,, 10	30·13	N.E.	59	58	100	68	57	0·25	Cloudy
,, 11	30·26	W.	58	56	112	75	54	0·15	Cloudy
,, 12	30·22	N.	64	61	115	75	57	...	Cloudy
,, 13	30·11	N.W.	65	61	113	73	58	...	Fine

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index for the first half-yearly volume for 1896 was given in the issue of June 27th. The practice of supplying loose copies has been discontinued, the Index having been placed in the centre of the journal, whence it can easily be detached, and placed either at the beginning or at the end of the volume.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1896 are now ready. Bound in cloth, gilt lettered, price 18*s.*

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, or post free 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

"PERMANENT EYE PREPARATIONS."

To the Editors of THE LANCET.

SIRS,—Would any of your readers inform me what Professor Leber's process is in making permanent eye preparations? I believe formaline is the preservative agent, but should be glad to obtain details and methods of use. I am, Sirs, yours faithfully,

DUNLEY OWEN.

Lansdowne-place, W.C., August 8th, 1896.

"Iodo-Glycerol."—In our notice of this preparation in the list of exhibits in the annual museum of the British Medical Association at Carlisle in our issue of Aug. 1st, the phrase "having *an* irritant effect" should have read "having *no* irritant effect." It was obviously a printer's error, to which Messrs. Arthur & Co., of 89, Berner-street, W., have drawn our attention. The chief merit of this preparation is that it possesses the properties of iodine without, however, cracking or hardening the skin.

J. G. B.—We agree with our correspondent that the most effective manner of combating the enemy would be to employ their own policy and send out proselytisers, but we do not think that their cause is gaining strength.

"THE EFFECT OF NASAL OBSTRUCTION ON ACCOMMODATION."

To the Editors of THE LANCET.

SIRS,—In your report in THE LANCET of Aug. 8th of my remarks on Dr. Maxwell's paper on the above subject at the British Medical Association the effects of expiration and inspiration are reversed. On page 435, line 17, for "inspire" read *expire*; in line 20, for "expiration" read *inspiration*. I am, Sirs, yours faithfully,

Aug. 8th, 1896. RAYNER D. BATTEN.

L.R.C.P.I.—The medical man in question should instruct the "syphon-water" manufacturer to abstain from publishing the signed testimonial. It is always a pity for a medical man to give manufacturers such testimonials, but the medical man in this case, presumably, did not know that his communication was going to be published abroad.

"PUSH."

A CORRESPONDENT, writing above the aphorism "Live and Let Live," has set us a problem. How, he enquires, can an ignorant public discriminate between want of principle and "push"? And he asks us to deal with the question. There can be no pronouncement made on the subject in the abstract. Between legitimate energy and illegitimate push there is no fixed line, while illegitimate push is necessarily linked with want of principle, though the want may be partial or total. In his letter, however, he gives an example of conduct which has come under his own notice. "I am not personally a sufferer," he says, "but there is one practitioner within two miles of my own house whose wife calls on every new-comer worth powder and shot almost without exception. The phenomenal success of her husband has induced another lady to adopt the same plan. The first, I regret to say, does not confine herself to new-comers, but does not scruple to try her hand even when a practitioner is actually in attendance. She can apparently lie when there is anything to be gained by it, and is not above slandering an opponent of her husband's when she thinks she can do so with impunity, as I very well know." No one can have any doubt that deliberate efforts on the part of a wife to detach patients from another practitioner and secure them for her husband constitute in that husband, if he knows of her conduct, distinct "want of principle." But our correspondent is advised not to be too ready to believe that the husband always does know of his wife's indiscretions.

W. L. B. will find an advertisement relating to the subject on page 54 of THE LANCET General Advertiser in our issue of Aug. 8th. We do not know the fees.

AN INFECTING DISINFECTOR.

A CHILD suffering from a mild attack of scarlet fever was kept indoors for forty days. The apartments were then disinfected under the auspices of the municipal authorities. Two days afterwards a spot was observed on one of the child's tonsils, and on investigation it was found to present a diphtheritic character. The medical attendant was convinced that the disinfectors conveyed the new disease, for no other strangers had been near the place and he himself had not visited the house for three weeks. *Quis custodiet ipsos custodes?* The foregoing case was communicated on June 18th last to the Société de Médecine Pratique in Paris by Dr. Roulin, the medical attendant, who further gave it as his firm opinion that disinfection by pulverisation, which is the method adopted in the city of Paris, gives illusory results. Apparently the infection must have been introduced in the manner indicated, but it is not always safe to depend on *primâ facie* evidence. The question is a very important one, and we trust it will meet with due attention.

M.D. Cantab.—A. and B. are equally responsible for the diagnosis and its results. From our correspondent's letter it seems that there can be no doubt that the child was suffering from scarlet fever.

"PROOF POSITIVE."

STILL another sensational attraction has been provided by the managers of the Royal Aquarium, Westminster, in the shape of so-called "lion taming." The lions are exhibited by a Countess X.—said to have a genuine claim on the *Almanach de Gotha*—with the object "of proving that performing animals need not necessarily be cruelly treated during training or while performing." It is true that the lady is only armed with a whip and a short bar of iron, neither of which she uses while in the cage, but this does not prove that the animals have not been "cruelly treated during training." It gives probability to the statement of the management, but is no real proof and could hardly be advanced as such. A really interesting feature of the exhibition is three cubs born as recently as August 6th. Originally there were four, but "Ophelia" has died, leaving "Juliet," "Romeo," and "Hamlet" to mourn her. The mother bears the name of "Zizi."

FOREIGN BODY IN THE FOREARM.

To the Editors of THE LANCET.

SIRS,—As an instance of the length of time a foreign body will remain embedded in the tissues without producing inconvenience or irritation, the following case appears to be worth recording. On Dec. 14th, 1894, late in the evening a woman accidentally put her right arm through a window, producing an incised wound three inches long obliquely across the forearm. I could not see or feel at the time that any glass was left behind, and with the aid of three catgut sutures the wound healed by first intention. I heard nothing more about it till early in last month, when she came to me complaining of pain in the arm and that she could not use it freely. I at that time could feel nothing, and having no "x" rays to help me told her it must be watched. On July 30th, while in her house vaccinating her baby, I casually asked how her arm was, and on examining it I could distinctly feel the edge of something three inches higher up the arm than the scar. Having no instruments handy and thinking it wise to seize the opportunity, I ventured to try to pierce the skin with the edge of what was underneath. With a little pressure the blunt edge came through, and with some difficulty I succeeded with finger and thumb in extracting a piece of glass, shaped roughly like a lozenge, being half an inch in width and one inch and three-quarters in length. The wound produced is to-day quite healed. I am, Sirs, yours faithfully,

Highgate, N., Aug. 6th, 1896. A. GOLDNEY CHITTY.

"*A Licentiate*."—Yes.

ERRATUM.—In the article on "Undulant (Malta) Fever" in THE LANCET of July 25th, on page 239, column 2, line 32, the words "febris undulatus" should read *febris undulans*.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.).

TUESDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (2 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (19th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY (20th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.)

FRIDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (4 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY (22nd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received:—*Carlisle Express and Examiner, Manchester Guardian, Glasgow Herald, Liverpool Courier, Doncaster Chronicle, Midland Free Press, Exeter Flying Post, Sheffield Evening Telegraph, Melbourne Argus, Pioneer Mail, Devon Gazette, Times of India, Express and Star, Bradford Observer, Exeter Evening Post, Birmingham Daily Gazette, Eastern Morning News, Leeds Mercury, Manchester Courier, Western Morning News, Yorkshire Herald, Bristol Mercury, Builder, Sussex Daily News, Leicester Post, Architect, Wolverhampton Chronicle, Derby Daily Telegraph, Clifton Chronicle, Portsmouth Times, Bury Guardian, Sanitary Record, Malden Express, Yorkshire Post, Brighton Gazette, Mining Journal, Weekly Free Press and Aberdeen Herald, Reading Mercury, City Press, Local Government Chronicle, Local Government Journal, Surrey Advertiser, Journal des Débats, Kendal Mercury, Colchester Gazette, Cumberland Advertiser, Penrith Observer, Southport Visitor, Bombay Gazette, Cape Times, Ceylon Observer, Citizen, West Sussex Times, Vegetarian, Farm and Home, Liverpool Daily Post, Huddersfield Chronicle, Cleckheaton Guardian, Newbury Weekly News, Shrewsbury Chronicle, North Otago Times, The Animal's Friend, Blackpool Herald, Nuneaton Advertiser, Hertfordshire Mercury, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Mr. A. H. Allen, Sheffield; Mr. William Adams, Lond.; Messrs. Arthur and Co., Lond.; Messrs. Arnold and Sons, Lond.; Anderson's College Med. School, Glasg., Sec. of; Aberdeen University, Sec. of; A. B., Sheffield; Arithmos, Lond.

B.—Dr. G. W. H. Bird, Lond.; Dr. Arthur Burton, Cambridge; Dr. Walter Broadbent, Lond.; Dr. G. S. Buchanan, Lond.; Mr. J. H. Busteed, Edin.; Mr. R. F. Bate, Deal; Messrs. Burgoyne, Burbidges and Co., Lond.; Messrs. J. Balding and Sons, Lond.; Messrs. Bland Bros., Newcastle-on-Tyne; Messrs. Burroughs, Wellcome and Co., Lond.; Bradford Union, Clerk of; Belgrave Hosp. for Children, Lond., Sec. of; Baker-street Assn. of Trained Nurses, Lond., Lady Supt. of; *Bryant Press*, Toronto; T. B. Browne, Ltd., Lond.; British Medical Assn., Lond., Sec. of

C.—Dr. Alfred Cox, Gateshead-on-Tyne; Dr. M. Charteris, Glasg.; Dr. I. Cadell, Edinburgh; Dr. A. J. Carbajal, San Fernando, Mexico; Mr. Arnold Caddy, Calcutta; Mr. Thomas Carter, Lond.; Mr. A. G. Cuthy, Lond.; Mr. W. I. Chiene, Edin.; Mr. R. Caffe, Woodhall Spa; Messrs. T. Christy and Co., Lond.; Messrs. C. J. Clay and Sons, Lond.; Chelsea Hosp. for Women, Lond., Sec. of; Cortland Wagon Co.

D.—Dr. Bernard Dyer, Lond.

E.—Messrs. Eason and Son, Dublin.

F.—Messrs. Fannin and Co., Dublin.

G.—Dr. R. M. Glover, Lond.; Dr. W. Grant, Edin.; Mr. J. S. Garratt, Lond.; Mr. C. A. Griffiths, Cardiff; Messrs. W. Gaymer and Son, Attleborough; Messrs. R. W. Grieff and Co., Lond.; General Medical Council, Lond., Sec. of; Government of Bengal, Calcutta, Sec. of; Globe Advertising Co., Aston Clinton.

H.—Dr. G. Herschell, Lond.; Surg.-Capt. M. Louis Hughes, Malta; Surg.-Capt Patrick Hehir, Hyderabad; Mr. W. Barron Hart, Calcutta; Mr. O. Holst, Eastbourne; Mr. Henry Halden, Lond.; Mr. F. A. L. Hammond, St. Austell, Cornwall; Mr. W. Huntington, St. Andrews; Mr. J. J. Huey, Mexborough; Mr. J. Heywood, Manchester; Herr E. Leitz, Wetzlar; Mr. Victor Horsley, Lond.; Messrs. J. Haddon and Co., Lond.; Messrs. Hooper and Co., Lond; Hunyadi Janos Natural Aperient Water, Manager of; Hygienic Food Co., Addiscombe, Manager of; Harvard Co., Lond.

I.—Ickringills, Ltd., Keighley, Sec. of.

J.—Mr. W. R. W. James, Edin.; Mr. E. L. Jenkins, Pontypool; Mr. H. Jones, Crewe; Jeyes' Sanitary Compound Co., Lond., Sec. of.

K.—Dr. Henry H. Kane, New York, U.S.A.; Mr. W. H. Kelson, Lond.; Mr. B. Kuhn, Lond.; Mr. W. V. Kane, Nagpur, India; Messrs. R. A. Knight and Co., Lond.

L.—Dr. T. O. Luke, Matlock; Mr. R. Clement Lucas, Lond.; Messrs. Laidlaw and Sandeman, Galashiels; Messrs. E. and S. Livingstone, Edin.; Liq. Carnis Co., Aston Clinton.

M.—Sir W. MacCormac, Lond.; Dr. E. D. Mapother, Lond.; Dr. J. V. McCreery, Melbourne, Victoria; Dr. J. A. Macdougall, North Berwick, N.B.; Mr. R. H. D. Mahon, Lond.; Mr. George Morgan, Brighton; Mr. A. D. Maitland, Keswick; Mr. H. Marmion, Isleworth; Messrs. Marion and Co., Lond.; Messrs. May and Baker, Lond.; Messrs. J. F. Macfarlan and Co., Lond.; Monkwearmouth and Southwick Hosp., Sunderland, Hon. Sec. of; Medical Guild, Manchester, Hon. Sec. of; Manchester Children's Hosp., Sec. of; Manchester Clinical Hosp. for Women, &c., Sec. of; M.D., Cantab.; M.B., Exeter; Million, Lond.

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